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ripening); most of the larger muscles were already gnawed away, leaving loose ends of fiber and strings of tendon clinging to the bone, the condition being such that the remaining flesh might easily have been cut and scraped away by means of a knife; yet whenever a warrior or woman or youth hungered he or she took down the heavy joint, squatted or sat on the ground with back to one side of the doorway, held the mass at the height of the mouth, and gnawed, sucked, and swallowed, frequently tearing the tissue by twisting and backward jerks of the head, and not only masticating, but swallowing the free ends of tendons still attached to the bone. This process was varied only by seizing with the hands and tearing off a strip of flesh or skin already loosened by the teeth; and it was continued until the bones were practically clean, when they were wrenched apart by the stronger men in order that the cartilaginous cushions and epiphyses might be gnawed away. The only approach to cooking or carving was a parboiling of the foot, after the leg was wrenched off at the hock, until the hoof was sufficiently softened to be knocked off with the protolithic hupf[1] shown in plate XLIII, when half a dozen matrons and well-grown maidens gathered about to gnaw the gelatinous tissue (already softened by incipient decay as well as by the parboiling) investing the coffin-bone. The entire procedure in this as in many other cases proclaimed the absence of knife-sense. The Caucasian huntsman does not have to think of his knife when game is to be bled or skinned or dissected; his habit-trained hand knows where to find the implement, how to seize it, and in most cases how to wield it advantageously; but the Seri hand possesses no such cunning, and uses the knife only clumsily and at second thought, if at all. The Seri huntsman, on the other hand, does not have to think of nails and teeth, for they are trained and coordinated by hereditary habit to spontaneously act in unison and with the utmost possible or needful vigor; while the Caucasian at least has completely lost the claw-and-teeth instinct of offense and defense.

Conformably with their striking independence of knives, the Seri are conspicuously unskilful in all mechanical operations involving the use of tools. Their most elaborate manufacture is the balsa, made from reeds broken at the butts and with the leaves and tops removed by the hands or by fire, bound together with hand-made cords; next in elaborateness come the bow and arrow, normally made without cutting tools; then follows their fictile ware, which is made wholly by hand, without aid of the simple molds and paddles and other devices used by neighboring tribes; while their primitive fabrics were apparently of hand-extracted fibers, twisted and woven wholly by hand, with the aid of wood or bone perforators in sewing and possibly in weaving. Practically the Seri possess but a single tool, and this is applied to a peculiarly wide variety of purposes—it is the originally natural cobble used for crushing bones and severing tendons, for grinding seeds and

[1] Defined postea, p. 188.

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and the shell-strata are so like and so different from any other fictile ware as to be distinguished at a glance. Hence it would seem manifest that the Seri olla must constitute a normal nucleus for the Seri esthetic; yet even here the field is practically barren, as is shown by the study of a score of usable and mortuary specimens and of thousands of sherds. The most ornate specimen seen is that depicted in plate XXXII. Its form, like that of the baïsa, is a mechanical equation of forces and materials; its body-color is that of the clay, blotched and blackened irregularly by the smoke of the firing; and its decoration is limited to 17 faint lines or bands radiating downward from the ill-shaped neck. The radial bands were evidently drawn by a finger dipped in clayey water after the vessel was otherwise finished for the firing; they are irregular in placement, width, length, and direction; they generally run in pairs, two straight lines alternating with two zigzag lines, though the circuit is completed by two zigzags drawn wide apart and separated by a single straight line. The meaning of the device (if meaning there be) was not directly ascertained; but it is suggestive that its maker and owner was the mother of the youthful warrior from whom the rattlesnake necklace was obtained (her face-symbol is that shown in the lower left figure of plate XXVI), and that the vessel was surrendered more reluctantly than any other article obtained from the tribe.

Another utensil of some importance to the tribe is a basket of the type illustrated in figure 24. It is manufactured with much skill and is used for various domestic purposes, being practically water-tight and unbreakable, and materially lighter than even the unparalleledly light fictile ware of the Seri. In form and size and weave the half dozen examples seen correspond with widespread southwestern types; yet it is noteworthy that while otherwise similar baskets are habitually decorated by other basket-making tribes, the Seri specimens were absolutely devoid of decorative devices.

Practically the only remaining artifacts available for decoration are those connected with archery; and it suffices to say that while the bows are skilfully made and the arrows constructed with exceeding pains, not a single specimen seen showed the slightest trace of symbolism or of nonutilitarian motive.

Summarily, the Seri are characterized by extreme esthetic poverty. This has been noted by the early missionaries and by the few other travelers who have approached their haunts, as well as by the vaqueros on the Encinas and Serna and other ranchos bordering their range, who know them as "los pobrecitos". All observers have been struck with their destitution and squalor; yet when the impressions are particularized they are seen to denote absence of the poor luxuries, rather than the bare necessities, of primitive life. The people are pathetically poor in the industrial sense; their equipment in artifacts—implements, weapons, utensils, habitations, apparel—is meager almost, if not quite, beyond parallel in America; yet their esthetic equipment, practically

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munalty something like that of Siouan Indian and buffalo in olden time, whereby both may benefit and whereby the more intelligent communal certainly profits greatly. The flesh of the turtle yields food; some of its bones yield implements; its carapace yields a house covering, a convenient substitute for umbrella or dog-tent, a temporary buckler, and an emergency tray or cistern, as well as a comfortable cradle at the beginning of life and the conventional coffin at its end; while the only native foot-gear known is a sandal made from the integument of a turtle-flipper.

FIG. 20.—Turtle-harpoon.

Doubtless the eggs and newly hatched young of the turtle are eaten, and analogy with other peoples indicates that the females are sometimes captured at the laying grounds or on their way back to water; but observation is limited to the taking of the adult animal at sea by means of a specialized harpoon. A typical specimen of this apparatus, as constructed since the introduction of flotsam iron, is illustrated in figure 20. It comprises a point 3 or 4 inches long, made from a nail or bit of stout wire, rudely sharpened by hammering the tip (cold) between cobbles, and dislodging the loosened scales and splinters by thrusts and twirlings in the ground; this is set firmly and cemented with mesquite gum into a foreshaft of hard wood, usually 4 or 5 inches long, notched to receive a cord and rounded at the proximal end; the rounded end of this foreshaft fits into a socket of the main shaft, which may be either a cane-stalk (as shown in the figure) or a section of mesquite root; while a stout cord is firmly knotted about the foreshaft and either attached to the distal portion of the main shaft or carried along it to the hand of the user. The main shaft is usually 10 or 12 feet long, with the harpoon socket in the larger end, and is manipulated by a fisherman sitting or standing on his balsa. On catching sight of a turtle lying in the water, he approaches stealthily, preferably from the rear yet in such wise as not to cast a frightening shadow, sets the foreshaft in place, guides the point close to the carapace, and then by a quick thrust drives the metal through the shell. The frictional resistance between the chitin and the metal holds the point in place, and although the foreshaft is jerked out at the first movement of the transfixed animal the cord prevents escape; and after partial tiring

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the turtle is either drowned or driven ashore, or else lifted on the craft.[1] Immediately on landing the quarry, the plastron is broken loose by blows of the hapf[2] and torn off by vigorous wrenches of the warriors and their strong-taloned spouses in the impetuous fury of a fierce blood-craze like that of carnivorous beasts; the blood and entrails and all soft parts are at once devoured, and the firmer flesh follows at a rate depending on the antecedent hunger, both men and women crushing integument and tendon and bone with the hapf, tearing other tissues with teeth and nails, mouthing shreds from the shells, and gorging the whole ravenously if well ahungered, but stopping to singe and smoke or even half roast the larger pieces if nearer satiety. If the quarry is too large for immediate consumption and not too far from a rancheria the remnants (including head and flippers and shells) are hoisted to the top of the jacal immediately over the open end—the conventional Seri larder—to soften in the sun for hours or days; and on these tough and gamey tidbits the home-stayers, especially the youths, chew luxuriously whenever other occupations fail. In times of plenty, such sun-ripened fragments of reeking feasts are rather generally appropriated first to the children and afterward to the coyote-dogs; and it is a favorite pastime of the toddlers to gather about an inverted carapace on hands and knees, crowding their heads into its noisome depths, displacing the rare scavenger beetles and blowflies of this arid province, mumbling at the cartilaginous processes, and sucking and swallowing again and again the tendonous strings from the muscular attachments, until, overcome by fulness and rank effluvias, they fall asleep with their heads in the trough—to be stealthily nudged aside by the cringing curs attached to the rancheria. Com-

[1] A lively and explicit account of Seri turtle-fishing appears in Hardy's Travels in the Interior of Mexico, 1829, pp. 286-287: "Bruja's bay is of considerable extent, and there are from five to three fathoms water close to Arnold's island, in the neighborhood of which the Indians catch abundance of turtle in a singular manner. I have already described their canoes, which in Spanish are called 'balsas'. An Indian paddles himself from the shore on one of these by means of a long, elastic pole of about 12 or 14 feet in length, the wood of which is the root of a thorn [illegible], growing near the coast; and although the branches of this tree are extremely brittle, the underground roots are as pliable as whalebone and nearly as dark in color. At one end of this pole there is a hole an inch deep, into which is inserted another bit of wood, in shape like an acorn, having a square bit of iron 4 inches long fastened to it, the other end of the iron being pointed. Both the half and cup are first moistened and then tightly inserted one within the other. Fastened to the iron is a cord of very considerable length, which is brought up along the pole, and both are held in the left hand of the Indian. So securely is the nail thus fixed in the pole that although the latter is used as a paddle it does not fall out.

"A turtle in a very lethargic animal, and may frequently be surprised in its watery slumbers. The balsa is placed nearly perpendicularly over one of these unsuspecting sleepers, when the fisherman, softly sliding the pole through the water in the direction of the animal till within a foot or two of it, he suddenly plunges the iron into its back. No sooner does the creature feel itself wounded than it swims hastily forward and endeavors to liberate itself. The slightest motion of the turtle displaces the iron point from the long pole, which would otherwise be inevitably broken and the turtle would as certainly be lost; but in the manner here described it is held by the cord fastened on to the iron which has penetrated its back till, after it has endeavored its strength, it is hoisted on board the canoe by the fisherman, who proceeds to the shore in order to dispose of his prize."

[2] The universal stone implement of the Seri, improvised from a cobblestone and used in nearly every industrial occupation (see pestles, p. 235); the designation is ximetlc, or onomatopoetic, from the sound of the strokes, particularly on animal tissue.

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manly the carapace and the longer bones from the flippers of the larger specimens are preserved entire for other uses, and are cleaned only by teeth and talons and tongues, aided by time but not by fire; but the plastron, unless broken up and consumed immediately, is subjected to a cooking process in which it serves at once as skillet and cutlet—it is laid on the fire, flesh side up, and at intervals the shriveling tissues are clawed off and devoured, while at last the scorched or charred scutes themselves are carried away to be eaten at leisure.[1]

Perhaps the most significant fact connected with the Seri turtle-fishing is the excellent adaptation of means to ends. The graceful and effective balsa is in large measure an appurtenance of the industry; the harpoon is hardly heavier and is much simpler than a trout-fishing tackle, yet serves for the certain capture of a 200-pound turtle; and the art of fishing for a quarry so shy and elusive that Caucasians may spend weeks on the shores without seeing a specimen is reduced to a perfection even transcending that of such artifacts as the light harpoon and fragile olla. Hardly less significant is the nonuse of that nearly universal implement, the knife, in every stage of the taking and consumption of the characteristic tribal prey; for it may fairly be inferred that the comparative inutility of the knife in dissevering the hard and horny chelonian derm, and the comparative effectiveness of the shell-breaking and bone-crushing hapf, have reacted cumulatively on the instincts of the tribe to retard the adoption of cutting devices. Of much significance, too, is the limited cooking process; for the habitual consumption of raw flesh betokens a fireless ancestry at no remote stage, while the crude cooking of (and in) that portion of the shell not consecrated to other uses might well form the germ of broiling or boiling on the one hand and of culinary utensils on the other hand. On the whole, the Seri turtle industry indicates a delicate adjustment of both vital and activital processes to a distinctive environment, in which the abundant chelonian fauna ranks as a prime factor.

Analogy with other primitive peoples would indicate that the flesh of the turtle is probably tabu to the Turtle clan, that the consumption of the quarry is preceded by an oblation, and that there are seasonal or other ceremonial rites connected with turtle-fishing; but no information has been obtained on any of these points save a few vague and unwilling suggestions from Mashém tending to establish the analogy.

Flotsam and stolen metal have played a rôle in the industries of Seriland so long that it is difficult to learn much of the turtle fishing

[1] These details were furnished largely by Mashém and Señor Encinas, but were verified in essentials by personal observation of dietetic customs at Costa Rica in 1894, and they were corroborated by observations on both shores of El Infiernillo and Bahía Kunkaak in 1895. Especially significant were the remnants of a turtle feast on the southern beach of Punta Miguel interrupted by the approach of the exploring party. The indications were clear that the turtle had been landed and largely consumed before the fire was kindled, and that the cooking of the firmer portions had hardly been commenced before the camp was abandoned so hurriedly that not only the nearly eaten turtle and the glowing embers, but the harpoon (the specimen illustrated in figure 39), the still bloody and greasy hapf (that represented in plate LIV), and the fire-sticks were left behind. Grooved fragments of charred plastrums are common relics about hastily abandoned camps generally.

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during prenatal times; but an intimation from Mashém that the old men thought it much better to take the turtle with the teeth of an "animal that goes in the water", and the similarity in terms for "harpoon" (or arrow) and "teeth" both suggest that the aboriginal point may have been a sea-lion tooth, and that the foreshaft itself may have been a larger tooth of seal or cetacean. While the modern harpoon is shaped with the aid of metal (hoop-iron, etc.), the forms are quite evidently vestigial of knifeless manufacture, in which a naturally rounded or abraded or fire-shaped foreshaft was fitted into the natural socket afforded by a cane-stalk broken at its weakest point—i.e., just below the joint; and both function and socket arrangement (as well as the linguistic evidence) strongly suggest the cylindrical tooth as the germ of the apparatus.

It is probable that water-fowl, considered collectively, stand second in importance as Seri prey; and the foremost fowl is undoubtedly the pelican, which serves not only as a fruitful food-supply but as the chief source of apparel.

The principal haunt and only known breeding ground of the pelican in the Gulf of California is Isla Tasnne, an integral part of Seriland; and while the great birds are doubtless taken occasionally in Bahia Kunkaak, El Infiernillo, Bahia Tepoka, and other Seri waters, this island is the principal pelican hunting ground. According to Mashém's account, the chase of the pelican here is a well-organized collective process: at certain seasons, or at least at times deemed propitious by the shamans, pelican harvests are planned; and after some days of preparation a large party assemble at a certain convenient point (presumably Punta Antigualla) and await a still evening in the dark of the moon. When all conditions are favorable they set out for the island at late twilight, in order that it may be reached after dark; on approaching the shore the balsas are left in charge of the women, while the warriors and the larger boys, armed only with clubs, rush on the roosting fowls and slaughter them in great numbers—the favorite coup de grâce being a blow on the neck. The butchery is followed by a gluttonous feast, in which the half-famished families gorge the tenderer parts in the darkness, and noisily carouse in the carnage until overcome by slumber. Next day the matrons select the carcasses of least injured plumage and carefully remove the skins, the requisite incisions being made either with the edge of a shell-cup or with a sharp sliver of cane-stalk taken from an injured arrow or a broken balsa-cane. The feast holds for several days, or until the last bones are picked and the whole party sated, when the clans scatter at will, laden with skins and lethargic from the fortnight's food with which each maw is crammed.

Mashém's recital gave no indication as to whether the Pelican clan participate in the hunting orgies, though it clearly implies that the chase and feast are at least measurably ceremonial in character; and this implication was strengthened by the interest and comparative

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vivacity awakened in the Seri bystanders by their spokesman's frequent interlocutions with them during the recital. Unfortunately the account was not clear as to the seasons selected, though the expressions indicated that the feasts are fixed for times at which the young are fully fledged. It would seem inconceivable that the Seri, with their insatiate appetite for eggs and tender young, should consciously respect a breeding time or establish a closed season to perpetuate any game; yet it is probable that the pelican is somehow protected in such wise that it is not only not exterminated or exiled, but actually fostered and cultivated. It is certain that the mythical Ancient of Pelicans is the chief creative deity of Seri legend, and its living representative the chief tutelary of one of the clans; it is certain, too, that this fleshly fowl, sluggish and defenseless as it is on its sleeping grounds, would be the easiest source of Seri food if it were hunted indiscriminately; and it is no less certain that the omnivorous tribesmen would quickly extinguish the local stock if they were to make its kind, including eggs and young, their chief diet; yet it survives in literal thousands to patrol the waters of all Seriland in far-stretching files and vees seldom out of sight in suitable weather. On the whole, it would seem evident that an interadjustment has grown up between the tribesmen and their fish-eating tutelary during the centuries, whereby the fowl is protected, albeit subconsciously only, during the breeding seasons; and in view of other characteristics of the tribe it would seem equally evident that the protection is in some way effected by means of ceremonies and tabus. 223 [776]

Somewhat analogous, though apparently less ceremonial, expeditions are made to Isla Patos and other points in search of ducks, and to Isla San Esteban, and still more distant islands in search of eggs (preferably near the hatching point) and nestlings; while the abundant waterfowl of the region are sought in Rada Ballena and other sheltered bays, as well as in such landlocked lagoons as those of Punta Miguel and Punta Arena. This hunting involves the use of bows and arrows, though the archery of the tribe pertains rather to the chase of larger land game, and apparently attains its highest development in connection with warfare. No specialized fowling devices have been observed among the Seri; and their autonomous recitals, the facies of their artifacts, and the observed habits of the tribe (especially the youth) with respect to birds, all indicate that ordinary fowling holds a subordinate place in Seri craft—i. e., that it is a fortuitous and emergency avocation, rather than an organized art like turtle-fishing and water-carrying. Concordantly, culinary processes are not normally employed in connection with waterfowl, and the customary implements used for incising the skin and severing other tissues are the shell-cup, which is carried habitually for other purposes, the cane-splint, which appears to be improvised on occasion and never carried habitually, and the ubiquitous hupf. [222] [411] [412]

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ing and at the same time enrich the tribal larder with a game beneath the dignity of the warriors; while still smaller boys similarly chase the rabbit, which is commonly scorned by the striplings. The conventional hare-hunting party is three, and it is deemed disreputable to increase this number greatly. The youths spread at sight of the game and seek to surround it, taking ingenious and constant advantage of the habit of the hare to run obliquely or in zigzags to survey more readily the source of its fright; for some time they startle it but slightly by successive appearances at a distance, but gradually increase its harassment until it bounds hither and thither in terror, when they rapidly close in and seize it, the entire chase commonly lasting but a few minutes. The quarry is customarily taken alive to camp, where it is quickly rent to fragments and the entrails and flesh and most of the bones consumed; the skin usually passes into possession of a matron for use as infantile clothing or cradle bedding, while the ears are kept by the youth who first seized the game until his feat is eclipsed by some other event—unless chance hunger sooner tempts him to transmute his trophy into pottage.

While the collective, semiceremonial style of chase alone is thoroughly good form in Seri custom, it is often rendered impracticable by the scattering of the tribe in separate families or small bands, in which case the hare and its associates, like the larger carnivores customarily, are taken by strategy rather than by strength. This form of chase is largely individual; in it archery plays a leading rôle; and in it, too, ambuscade, stealthy lying in wait, and covert assault attain high development. It is closely analogous with the warfare typical of the tribe; and it is especially noteworthy as one of the most effective stimuli to intellectual activity, and hence to the development of invention—if the term may be applied to industrial products so lowly as those of the Seri.

The chief artifact produced by the strategic chase on land would seem to be the analogue of the harpoon used at sea, i. e., the arrow. This weapon is one of the three or four most highly differentiated and thoroughly perfected of the Seri artifacts, ranking with canteen-ollas and balsa, and perhaps outranking the turtle-harpoon. It is fabricated with great care and high skill, and with striking uniformity in details of material and construction. A typical example is 25 inches in length and consists of three pieces—point, foreshaft, and main shaft (feathered toward the nock). The foreshaft is 8½ inches long, of hard wood carefully ground by rubbing with quartzite or pumice into cylindrical form, about three-eighths of an inch in diameter at the larger end and tapering slightly toward the point; the larger end is extended by careful grinding into a tang which is fitted into the main shaft, the joint being neatly wrapped with sinew. This main shaft is a cane-stalk (*Phragmites communis*?) 15 or 16 inches long, carefully selected for size and well straightened and smoothed; it is feathered with three equidistantly-

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411 placed wing-feathers of hawk or falcon, neatly prepared by removing a thin strip of the rachis bearing the wider vexillum and attaching it by sinew wrappings at both ends, the feathers being about 5½ inches in length. The nock is a simple rounded notch, placed just below a joint and supported by the sinew ferrule; there is no foot-ping. The favorite point is a bit of flotsam hoop-iron, ground into elongate triangular shape with projecting barbs, and a short tang or shank fitted into a shallow notch in the foreshaft, cemented there with mesquite gum, and finally fixed firmly with sinew wrappings. A typical iron-point arrow, with bow and quiver, is depicted in plate XXX. Alternative points are of rudely chipped stone (two examples are illustrated in figure 37) somewhat clumsily attached to the foreshaft by mesquite gum and sinew wrapping; while the arrows used by boys and hunters of small game are usually pointless, the tip of the foreshaft being sharpened and hardened by slight charring. In some of the arrows, especially those designed for use in war, the foreshaft is notched, or else loosely attached to the main shaft, in order that it may be detached from the main shaft and remain in the body of enemy or prey. The foreshaft is commonly painted some bright color (red is prevalent), while the points and attachments of the "poisoned" specimens are smeared with some greasy substance.

The aboriginal Seri arrow has undoubtedly been modified during the centuries since the coming of Cortés and Mendoza with their metal-armed troopers; yet certain inferences as to the indigenous form of the weapon are easily drawn from its construction and the homologies of its parts.

The first feature of the artifact to attract attention is the relative clumsiness of attachment and frequent absence of points. The chipped-stone points are so rude as to be quite out of harmony with the otherwise delicately wrought and graceful arrow, while the attachment is strikingly rude; and it is still more noteworthy that the very name for stone arrowpoint was little understood at Costa Rica, and was obtained only after extended inquiry and repeated conferences among the older informants. Even the attachment of the effective points made from hoop-iron is bad constructionally; the sinew wrapping is carried around the entire blade in such manner as to sheathe the sharply ground edges and itself be cut on contact with firm tissue; and the fitting and wrapping are so rude as to be incongruous with the rest of the apparatus. On the whole the suggestion is strong that the arrowpoint is secultural—and this suggestion is further strengthened by the very existence of the practically functionless, and hence manifestly vestigial, hard-wood foreshaft. Turning to the structural homologies, the observer is at once struck with the parallelism running through the three most conspicuous compound artifacts found among the Seri, i. e., the harpoon, the fire-drill, and the arrow. All of these alike consist of two essential parts, main shaft and foreshaft; all are

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akin in function even in the superficial view of the Caucasian, and are much more closely related in primitive thought—indeed the fire-drill is but a featherless and neckless arrow, with the foreshaft charred at its fire-giving tip; and all are closely linked in language and allied with other terms in such wise as practically to establish identity among them in the thinking of their lowly makers (though unfortunately the incomplete vocabularies extant are insufficient for full study of the linguistic homologies). Briefly the indications are that the harpoon was the primary device, and that its foreshaft was a tooth of an aquatic fish-eater like the seal, or perchance in some cases an os penis; that its lineal successor was a loose-head lance for use on sea and land, at first with the unaided hand and later with the atlatl, or throwing-stick (the lance being now extinct, though recorded by early visitors to Seriland); that the next artifact-generation in the direct line was represented by the arrow, foreshafted with hard wood or tooth, made light and graceful and loose-headed or not, according to needs, and by the substitution of bow for atlatl; and that a somewhat aberrant line was marked by the taming of fire, its reproduction by the modified arrow, and the differentiation of fire-stick from arrow and either atlatl or bow.

In tracing these stages in technologic growth, it is to be remembered that the Seri are so primitive as to betray some of the very beginnings of activital concepts; that to them zoic potencies are the paramount powers of the cosmos; that in their simple thought fire is a bestial rather than a physical phenomenon; that in their naive philosophy the production of devouring flame is of a kind with vital birth and a similitude of sexual reproduction; and that according to their notions the conquest of quarry, including fire, is made practicable only by aid of the mystical potencies of beasts and flames gained through invocatory use of symbols or actual organs.

In the Seri tongue the term "fire-drill" is *kaak*, an indefinite generic meaning "kind" or "strong kind", with an egocentric connotation ("Our-Strong-Kind"), as in the proper tribal designation *Kwa-kaak* or *Kw-kaak;* while the term for the nether fire-stick or hearth is either moam ("woman", or more properly "mother"), or else (and more commonly) *kaak-moam*, which may be rendered "Kind-Mother"—the "Kind", as among primitive folk generally, comprising both men and tutelary beasts, and in this case fire as the most mysterious of the beasts; there is thus a suggestive analogy between the designation for the fire-producing apparatus and that for the tribe itself. It should be noted that the zoic concept of fire is widespread among the more primitive peoples of various provinces, and sometimes persists in recognizable form in higher culture (witness the fire-breathing dragons of various mythologies, the "Red Flower" notion gathered in India by Kipling, etc); also that the ascription of sex to the fire-sticks is prevalent among North American tribes, and at once helps to interpret the development of the fire-drill, fire-syringe, and other primitive devices, such, for example, as

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000 those so fully described by Hough,[1] and serves to explain the otherwise obscure genesis of the fire-sense, which must have accompanied and shaped that most significant of all steps in human progress, the conquest of fire.

411 The modern coordinate of the Seri arrow is the bow, made preferably from a straight and slender branch of the palo blanco. A typical specimen is illustrated in plate XXX; it is 4 feet 9½ inches long, with the outer face convex and the inner face flat; greatest width 1⅝ inches, narrowed to 1¼ inches at the hand-hold; thickness at the hand-hold 1 inch, thinning to five-eighths inch at 8 inches from this point; tapering gradually in both dimensions toward the extremities, which are rudely notched to receive the cord (of mesquite-root fiber). The specimen
[284] illustrated has been cracked and repaired in two places; in one place the repair was effected by a rough wrapping of sinew, and in the other by slipping over the wood a natural sheath of rawhide from the leg of a deer. The specimen is of added interest in that it combines bow
[372] and nether fire-stick ("Strong-Kind-Mother"), one of the friction holes being worn out to the notched margin, and the other remaining in usable condition, as shown in the enlarged marginal drawing.[2]

Compared with the delicately finished and graceful arrow, the typical bow is a rude and clumsy device; it displays little skill in the selection and shaping of material, and evidently involves little labor in manufacture—indeed, the indications are that more actual labor is spent in the construction of a single arrow than in the making of a bow, while the arrow-making is expert work, betokening craft of a high order, and the bow-making little more than simple handiwork of the
[174] lowest order. The comparison affords some indication of the genesis of Seri archery, and at the same time corroborates the independent suggestion that the arrow is of so much greater antiquity than the bow as to represent a distinct stage in cultural development—though the precise cultural significance of the bow is not easily ascertained.

Efforts were made to have different Seri warriors at Costa Rica in 1894
114 assume the normal archery attitude, with but moderate success, the
123 best pose obtained (illustrated in plate XXVIII) being manifestly unnat-
126 ural and a mere reflection of the attitude in the mind of the Caucasian poser; while the results of inquiries served only to indicate that the normal archery attitude was purposely avoided for reasons not ascertained. Fortunately another observer was more successful: in the course of the United States hydrographic surveys in 1873, Commander (now Admiral) Dewey received several visits from Seri warriors on
114 board the *Narragansett*; and on the occasion of one of these visits, Mr
126 Hector von Bayer, of the hydrographic party, caught a photograph of an archer in the act of drawing his bow. The negative was accident-

[1] Fire-making apparatus in the U. S. National Museum; Smithsonian Report for 1888, pt. II, 1890, pp. 531-545, and elsewhere.

[2] Ordinarily the nether fire-stick is of soft and porous wood, ñeuen palo verde and water-logged pine being preferred.

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SERI ARCHER AT REST

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

ally shattered, and no prints are known to have been made from it; but the fragments were carefully joined, and were kindly transferred to the Bureau by Mr Van Bayer in 1897, and from them plate XXIX was carefully drawn. The posture (partly concealed by the drapery) is extraordinary, being quite beyond the reach of the average human, and impossible of maintenance for any considerable interval even by the well-wonted Seri. The posture itself partly explains the difficulty of inducing the warriors at Costa Rica to assume it, since it is essentially a fleeting one, and indeed but a part of a continuous and stressful action—it is no less difficult to assume, or to catch in the camera, than the typical attitude of a baseball pitcher in action. The posture thus fortunately caught is quite in accord with the accounts of Seri archery from the esoteric side given by Mashém, and with the exoteric observations of Señor Encinas, Don Andrés, and others; for all accounts agree in indicating that the archer commonly rests inert and moveless as the watching feline up to a critical instant, then springs into movement as swiftly as the leaping jaguar, and hurls, rather than shoots, one, two, or three arrows before rushing in to the death or skulking to cover as the issue may require.

The Seri archery habit is in every way consistent with the general habits of the tribe, alike in the chase and in warfare, in which the tribesmen, actuated by the fierce blood-craze common to carnivores, either leap on their prey with purpling eyes and gnashing teeth, or beat quick and stealthy retreat; and it is especially significant in the light thrown on the bow as a device for swift and vigorous rather than accurate offense, an apparatus for lengthening the arm still more than does the harpoon, and at the same time strengthening and intensifying its stroke. The quick-changing attitudes of half hurling are equally suggestive of the use of the atlatl, and support Cushing's hypothesis[1] that the bow was derived from the corded throwing-stick. While the critical posture of Seri archery is unique in degree if not in kind in the western hemisphere, so far as is known, an approximation to it (illustrated in fig. 22) has been observed in Central Africa.[2] On the whole the Seri mode of using the bow, like its crude form and rude finish, indicates that it is a relatively new and ill-developed artifact, possibly accultural though more probably joined indigenously with the archaic arrow to beget a highly effective device for food-getting as well as for warfare; while the genetic stages are still displayed not only in the homologies between arrow and harpoon, but by the common functions of both arrow and bow with the fire-sticks.

Concordantly, as indicated by the use of the archery apparatus, the individual taking of large game is effected either by stealthy stalking or by patient ambuscade ended by a sudden rush; when, if the chase is successful, the quarry is rent and consumed as at the finish of the

[1] The Arrow; Proceedings Am. Ass. Adv. Sci., vol. XLIV, 1895, pp. 232-240.
[2] Glave's Journey to the Livingston Tree. The Century Magazine, vol. LI, 1895, p. 284.

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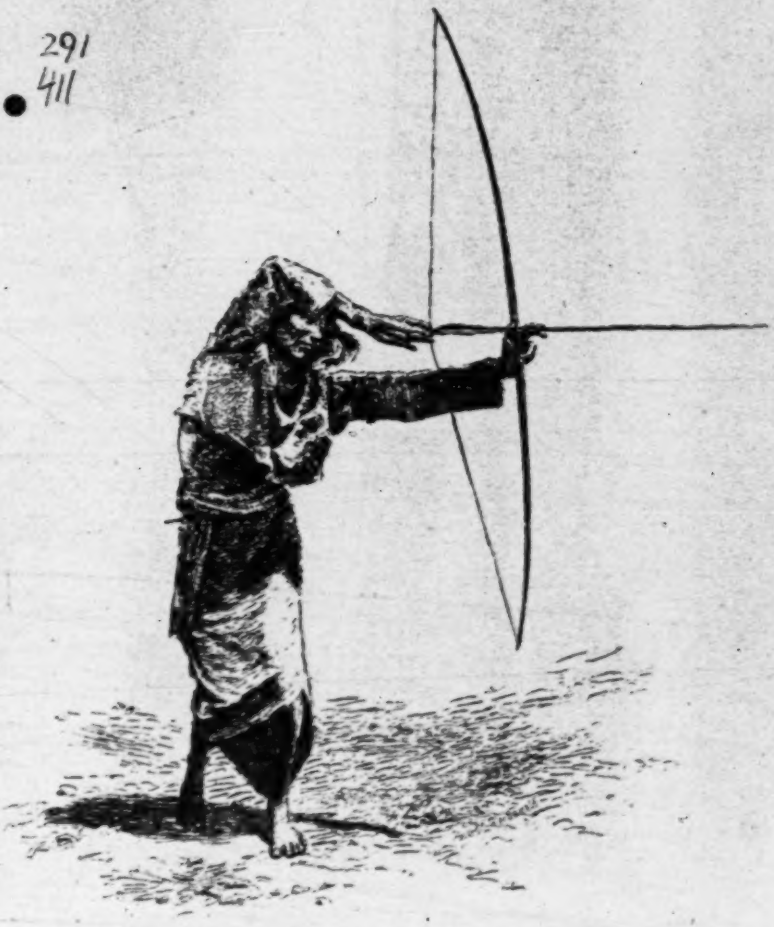

SERI ARCHER AT ATTENTION

[p. 202 A]

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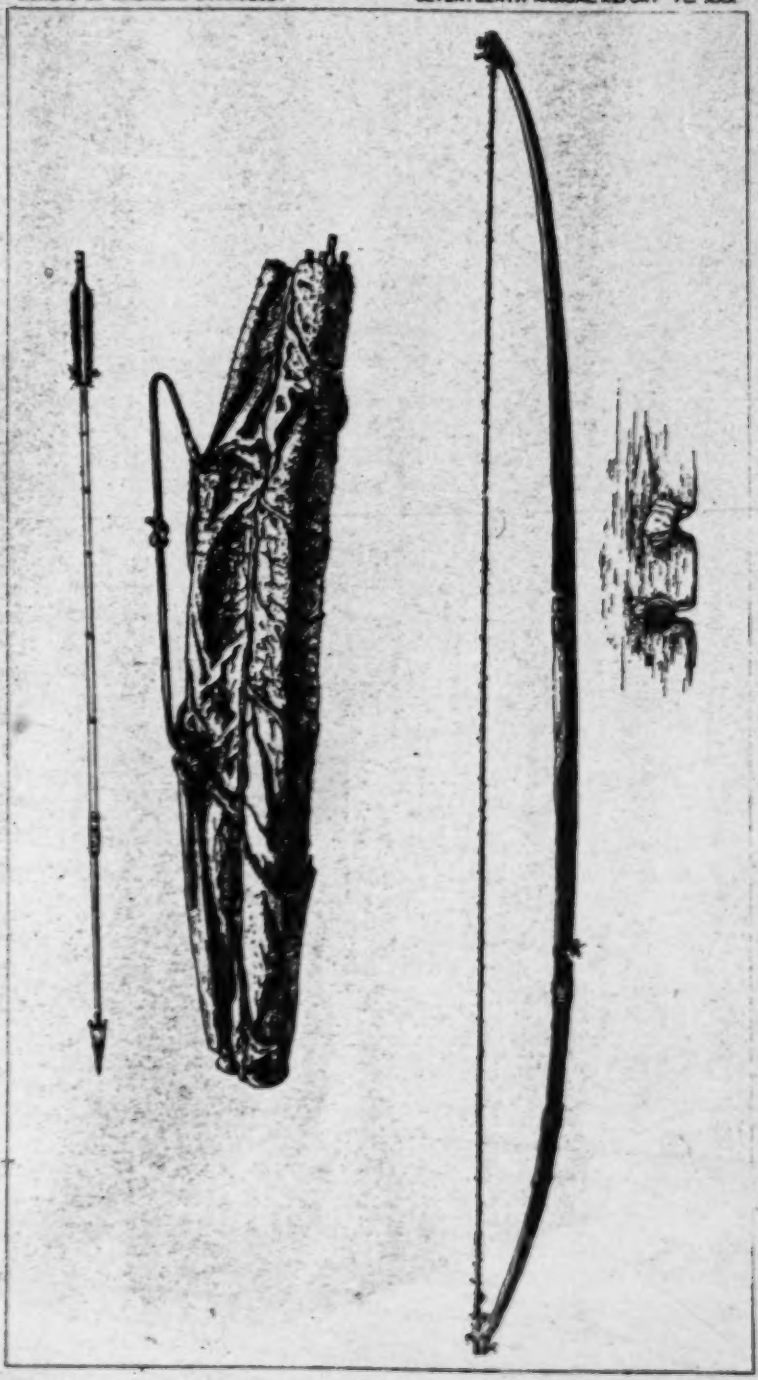

SERI BOW, ARROW, AND QUIVER

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

412 bles utilized in emergency, and commonly discarded after a single use, are too numerous and too various for convenient or useful grouping.

411 There is a distinctive type of Seri stone artifacts represented by a single category of objects, viz, chipped arrowpoints. Several of the literary descriptions of the folk—particularly those based on second-hand information and far-traveled rumor—credit the Seri with habitual use of stone-tipped arrows,[1] and it is the current fashion among both Mexican and Indian residents of Sonora to ascribe to the Seri any shapely arrowpoint picked up from plain or valley; yet the observations among the tribesmen and in their haunts disclose but slight basis for classing the Seri with the aboriginal arrow-makers of America.

[114]

Among the 60 Seri (including 17 or 18 warriors) at Costa Rica in 1894, three bows and four quivers of arrows were observed, besides a number of stray arrows, chiefly in the hands of striplings. The arrows seen numbered some 60 or 70, including perhaps 20 "poisoned" specimens; nearly half of them were tipped with hoop-iron, as illustrated in plate XXX, while about as many more were fitted only with the customary foreshafts (usually sharpened and hardened by charring), and the small remainder had evidently lost iron tips in use; there was not a single stone-tipped arrow in the rancheria. Moreover, when the usually incisive and confident Mashém was asked for the Seri term for stone arrowpoint he was taken aback, and was unable to answer until after lengthy conference with other members of the tribe—his manner and that of his mates clearly indicating ignorance of such a term rather than the desire to conceal information so frequently manifested in connection with esoteric matters; and the term finally obtained (*ahst-ahk*, connoting stone and arrow) is the same as that used to denote the arrowpoint of hoop-iron. The most reasonable inference from the various facts is that whatsoever might have been the customs of their ancestors, the modern Seri are not accustomed to stone arrow-making.

FIG. 37.—Seri arrowpoints.

172 411 The 1895 expedition was slightly more successful in the search for Seri arrows. About midway between the abandoned Rancho Libertad and Barranca Salina, an ancient Seri site was found to yield hundreds of typical potsherds, half a dozen shells such as those used for utensils, the fragments of a hupf evidently shattered by use as a fire-stone, and the small rudely chipped arrowpoint shown in figure 37*a*; and among the numerous relics found on a knoll overlooking Pozo Escalante (including two jacal frames, two or three graves, an abat, several shells

[1] The most specific reference is that of Hardy. "The men use bows and stone-pointed arrows, but whether they are poisoned, I do not know." Travels, p. 395.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

and discarded hupfa, a broken flutile figurine, etc), was the still ruder arrowpoint represented in figure 375 (both figures are natural size). The specimens are nearly identical in material—a jet-black slaty rock with a few lighter flecks interspersed, weathering gray on long exposure (as is shown by the partly natural surface of the larger point); similar rock abounds in several easterly spurs of Sierra Seri. The smaller specimen was evidently finished and used; its features indicate fairly skilful chipping, though its general form is crude—in addition to the asymmetric shouldering, the entire point is curved laterally in such manner as to interfere with accurate archery. The larger specimen is still more strongly curved laterally, and the chipping is childishly crude; while the rough surface, clumsy tang, and unfinished air indicate that it was never used even to the extent of shafting. It is possible that the specimens may have been imported by aliens, but the probabilities are strong that they were manufactured by the Seri. No other arrowpoints and no chips or spalls suggesting stone arrow-making were found in all Seriland, though the entire party of twelve were on constant lookout for them for a month. The natural inference from these facts is that the ancestral Seri, like their descendants, were not habitual stone arrow-makers.

There is a final category of Seri artifacts which would be classed as distinctive by Caucasians on the basis of material, though they are combined with the stone artifacts by the tribesmen; it comprises arrow-points of hoop-iron or other metal, harpoon-points of nails, spikes, or wire, awls of like materials, and other metallic adjuncts to ordinary implements. The use of iron is of course post-Columbian, and its ordinary sources are wreckage and strelage. The date of introduction is unknown, and probably goes back to the days of Cortés and Mendoza; certainly the value of metal was so well understood in 1709 that when Padre Salvatierra's bilander was beached in Seriland the tribesmen at once began to break her up for the nails (ante, page 67); yet the metal is wrought cold and only with hupf and abat like the local materials, and is habitually regarded and designated as a stone. By reason of the primitive methods of working, the metals are of course available only when in small pieces or slender shapes. There is a tradition among the vaqueros of the frontier that a quantity of hoop-iron designed for use in making casks was carried away from a rancheria in the vicinity of Bacuachito during a raid in the seventies, and that this stock has ever since served to supply the Seri with material for their arrowpoints; but it is probable that the chief supply is derived from the flotsam swept into the natural drift trap of Bahia Kunkaak by prevailing winds and tidal currents, and cast up on the long sandspit of Punta Tormenta after every storm. A surprising quantity and variety of wreckage was found on this point, and thence down the coast to Punta Narragansett, by the 1895 expedition: staves and heads of casks broken up after beaching, a telegraph pole crossbar which had evidently

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

between those stages and that next higher in the series with unparalleled clearness; their craft also displays an aberrant (and hence presumptively aocultural) feature pertaining to the technolithic stage; and in so far as their craftsmen use the material typical of the age of metal they degrade it to the transitional substage between dominant zoomimicry and designless stone-using.

Viewed in the general light of their pacific industries, the Seri are, accordingly, among the most primitive of known tribes; their technic is in harmony with their esthetic, and also with their somatic and tribal characteristics, in attesting a lowly plane of development; while their industries, like their other demotic features, are essentially autochthonous.

WARFARE

Something is known of Seri warfare through the history of the centuries since 1540, and especially through the bloody episodes of the Encinas régime and the occasional outbreaks of the last decade or two. The available data clearly indicate that the warfare of the tribe complements their pacific industries in every essential respect.

As befits their primitive character, warfare has played an important rôle in the history of the folk, forming, indeed, one of the chief factors in determining the course of tribal development. There is no means of estimating the losses suffered and occasioned in warfare with the neighboring tribes during either prehistoric or historic times; but the indications are that they were much greater than the losses connected with Caucasian contact. Neither is it practicable to estimate reliably the fatalities attending the interminable conflicts with the Spanish invaders and their descendants, though it is safe to say that the Seri losses in strife against Spaniards and Mexicans aggregate many hundred, and that the correlative loss on the part of their enemies reaches several score, if not some hundred, lives. Few if any other aboriginal tribes of America have had so sanguinary a history as the Seri, and none other has at once so long and so bloody a record.

According to the consistent accounts of several survivors of conflict with the Seri, their chief weapons are arrows, stones, and clubs—though several survivors manifest greater fear of the throttling hands and rending teeth of the savage warriors than of all their artificial weapons combined. A striking feature of the recitals, indeed, is the rarity of reference to weapons; the ambushes or surrounds or chance meetings, with their disastrous or happy consequences, are commonly described with considerable detail; the carbines or rifles, the machetes and knives, or the deftly thrown riatas employed by the rancheros or vaqueros are mentioned with full appreciation of their serviceability; but the ordinary expressions concerning the despised yet dreaded Seri are precisely those employed in recounting conflicts with carnivorous beasts. When Andrés Noriega's kinswoman proudly related how he

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

alone once overawed and routed an attacking party of 30 Seri warriors, she duly mentioned the carbine ready for use in his hands and the six-shooter and machete in his belt; but nothing was said of the Seri weapons. When a distinguished sportsman citizen of Caborca, the local authority on the Seri, sought to dissuade the 1895 expedition from visiting Tiburon, he was repetitively and cumulatively emphatic in his oracular forecast, "Ils vont vous tuer! *Ils vont vous tuer!!* ILS VONT VOUS TUER!!!"—yet he made but passing reference to "poisoned" arrows, and none to other weapons, in the general implication that invaders of the tribal territory were torn limb from limb and strewn over the rocks and deserts of Seriland. When Jesus Omada, of Bacuachito, boasted his Seri scars, he indeed emphasized the arrow-mark on his breast, but only as a prelude and foil to the far ghastlier record of his teeth-torn arm. When Robinson and his companion were butchered on Tiburon in 1894, the bloody work was effected chiefly by means of a borrowed Winchester; and neither the account of the survivors nor that of the actors made mention of native weapons—save the stones with which the second victim was finished according to the local version. In short, most of the casual expressions and fuller recitals alike indicate that while the Seri are famous fighters their weapons—except the much-dreaded "poisoned" arrows—are incidents rather than essentials to savage assaults, and that their prowess rests primarily on bodily the strength and swiftness.

The stones used in battle, as described by the survivors and as intimated by Mashém, are cobbles as large as a fist, i. e., hupfs of typical form and size. So far as is known they are never hurled, slung, nor projected in any other manner, nor are they hafted or attached to cords after widespread aboriginal customs; they are merely held in the hand, as in the slaughter of quarry. Hardy made note of a war-club—"They use likewise a sort of wooden mallet called Macána, for close quarters in war";[1] but nothing of the kind was found at Costa Rica in 1894, and no woodwork suggesting such use was found in the depths of Seriland in 1895.

The most conspicuous and doubtless the most effective war weapon is the arrow projected from the bow in the unusual if not unique fashion already noted (ante, p. 201). There is nothing to indicate that the Seri are especially effective archers; the facts (1) that a large part of the arrows are pointless, save for the hard-wood foreshafts; (2) that stone arrowpoints are not habitually used; and (3) that comparatively slight reference is made to the use of arrows in records and recitals of Seri battles, tend on the contrary to indicate inferior ability in archery. And in the course of the explorations by the 1895 expedition it was noted that the feral fowls and animals of Seriland—pelican, gull, snipe, curlew, cormorant, coyote, hare, burro, mountain sheep, peccary, etc—displayed little fear of human figures at distances exceeding 75 yards,

[1] Travels, p. 230.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

411 and seldom stirred until the stranger approached within 50 or 60 yards; whence it may be assumed that these distances fairly indicate the ordinary range of Seri arrows. The few accounts of conflicts in which arrows are mentioned prove, however, that those missiles are discharged with great rapidity and in considerable numbers during the brief interval to which the fighting is customarily limited.

278 411 The most notorious feature of the Seri warfare, and that of deepest interest to students, is the reputed use of poisoned arrows. The scattered literature of the tribe, from the days of Coronado onward, abounds in references to this custom; the Jesuit authorities give somewhat varied yet fairly consistent descriptions of the preparation and the effects of these arrows; Hardy added his testimony as to the character of the poison; General Stone gave directly corroborative evidence; haciendero Encinas gives witness to the effects of the envenomed missiles on his own stock; while Mashém recounted to the 1894 expedition the various uses of the "poisoned" arrows and highly extolled their potency, though he was noncommittal—save in casual allusions—as to the details of the poisoning. A part of the arrows acquired by this expedition and now preserved in the National Museum were professedly poisoned; they are easily distinguished by a thin varnish of gummy and greasy substance over the iron tips and wooden foreshafts, and especially about the attachments of mesquite gum and sinew. According to Mashém's asseverations, such arrows are habitually used in war save when the supply is exhausted by continued demand; they are also used occasionally in hunting, especially for deer and lions (i. e., the swiftest and fiercest game of the region); and the use of the poisoned missile does not destroy the meat of the animal, though the portion immediately about the wound is "thrown away". Two of the treated arrows brought back from Costa Rica were submitted to [126] Dr S. Weir Mitchell some months afterward for examination, and for identification of any poisonous matter found on them; but no poison was detected. On the whole, the data concerning the reputed arrow poisoning are less definite than might be desired; yet they are sufficient to suggest the nature of the custom with considerable clearness.

278 In any consideration of Seri customs it is to be realized that the folk are notably primitive in thought, and hence deeply steeped in that [811] overweening mysticism which dominates all lowly folk—that they still cling to zoomimic motives in their simple handicraft, and are still wholly within zoötheism in their lowly faith. In the light of this realization the numerous consistent records of the preparation of the poison are easily interpreted, and are found to be fully in accord with the prevailing motives of the tribe; and the interpretation serves to explain the somewhat discrepant accounts of the effects of the poison, effects ranging from nil to horrible sepsis. According to the more circumstantial recipes, the first constituent of the poison is a portion of lung, preferably human—a selection readily explained by pristine philosophy,

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is an infallible remedy. On the whole it seems probable that the yerba mala (*Sebastiana bilocularis?*), or yerba de flecha, or mago, or magot, yielded or formed the standard arrow-poison of the Opata and perhaps of other Indians, and that the ill-repute of the shrub survived and spread throughout Mexicanized Sonora in such frequent repetition and common belief as to affect the ideas of residents and travelers alike; but it seems equally probable that the magic-inspired brew of the Seri is entirely distinct.[1]

As suggested by widespread primitive customs, and as illustrated specifically by the arrow-charming, the warfare of the Seri is largely sortilegic, this feature being but an extension and magnification of a corresponding feature of their hunting customs. The economic object of the chase is, of course, the flesh of the quarry; but the hunt normally begins with invocatory or other fiducial ceremonies, culminates in a feast opened with oblations, and ends in the use of horns or hoofs, teeth or bones, mane or tail, as talisman-trophies—primarily pledges of fealty to the favorable potencies, only secondarily symbols of success. The observances illumine the ever-present esoteric object of the chase, which is to gain the favor or overcome the power of the beast-god represented by the animal hunted; in general, this is sought to be effected through mimetic movements, or symbolic objects, associated with that animal-kind, and the retained charm-trophy is valued as a symbol of the placation or outwitting of a particular deity. Similarly, the Seri warrior strives for the supposed deific symbols of the enemy—the scalp or headdress or arrow of the alien tribesman, the fire-breathing and echo-waking (as well as death-dealing) wand of the Caucasian; and the Papago arrows, Yaqui scalps, and white man's firearms are sought avidly, treasured as fetishes, and often carried conspicuously as badges of borrowed prowess.[2] So the Seri are never without alien insignia in the form of weapons. The day before the 1895 expedition entered their stronghold, a band of warriors and women were frightened from a freshly slaughtered cow by a party of vaqueros so suddenly that their arms were left behind—and these

[1] It should be noted that the actuality of the poisonous property ascribed to the yerba mala is in some degree questionable; the plant is the only one of southern Papaguería yielding suitable material for arrow-shafts, and it is possible (if not probable) that it was consecrated to this purpose by the aboriginal Opata and protected by taboo in such wise as to become a sacred and fearsome thing. It is accordingly by no means improbable that the reputed poisonous property is but the product of generations of association, and that the plant is really harmless—an inference supported by experiments on the part of the leader of the 1895 expedition, who swallowed the *juice of stem and leaves* in two or three minute but increasing doses without perceptible effect. On the other hand, it should be observed that the region is one abounding in toxic juices, and that this shrub is an luxuriant and so free from thorny armament and other protective devices of a mechanical sort as to raise the presumption that it must be protected against herbivorous animals, at least, by chemical constituents of some kind (*cf.* ante, p. 39).

[2] These motives on the part of the Seri were perpetuated by their tribal comrades: a Papago fetish in the form of an Apache arrowpoint, long worn by an aged warrior as a protection from Apache arrows, was among the spoil of the 1894 expedition; and a "poisoned" Seri arrowhead and forefinger, worn by a superannuated Papago "doctor" as a badge of invulnerability to similar missiles, was confidently shown to the 1895 expedition, but was held above price by its wearer—and this despite the fact that he had been christianized for decades, and retained no other pagan symbols.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

177 411 726 included a heavy Springfield "remodeled" rifle, lacking not only ammunition but breechblock and firing pin; while Don Andrés Noriega, of Costa Rica, and L. K. Thompson, of Hermosillo, described a rifle of modern make captured similarly two years before, which was in good working order and charged with a counterfeit cartridge ingeniously fashioned from raw buckskin in imitation of a center-fire brass shell and loaded with a polished stone bullet.[1] The finders opined that the rifles were carried to bluff the enemy, and even that the counterfeit cartridge was designed to do deadly execution; but it would better accord with Seri customs, and with the law of piratical acculturation which they typify,[2] to infer that the weapons were regarded rather as symbols of mystical potencies than as simple scarecrows. Of related import were two or three pseudomachetes made from rust-pitted cask hoops, reported by the majordomo and several vaqueros at Costa Rica; and of still greater significance was a machete picked up in a just-abandoned jacal by Don Ygnacio Lozania—veteran of the Andrade expedition and the Encinas conquest—which was laboriously rasped and scraped out of palobianco wood, colored in imitation of iron blade and mahogany handle by means of face-paints, and even furnished with "eyes" replacing the handle-rivets, in the form of embedded iron scales. Some of the Seri are familiar with the normal use of firearms, as was demonstrated by the Robinson and other episodes, and many of them modernly make some use of machetes or other knives, as shown by various rudely whittled wooden artifacts; yet the burden of proof indicates that the chief use of the Caucasian's weapons in the heat of actual warfare is shamanistic and symbolic. This interpretation is, in fact, practically established by the experience of the frontier; for the vaqueros and local soldiery have little fear of the ill-understood firearms and clumsily handled machetes occasionally seen in Seri hands, though they dread unspeakably the necromantic arrows and flesh-rending teeth with which the agile foes are credited.

174 324 The mystical potency ascribed to Caucasian firearms and cutlery by the zoomimic tribesmen is of interest as a reflection of motives and methods pervading the entire range of their activities; at the same time it suggests the genesis of the aberrant technolithic craft displayed in arrow-chipping. The information obtained from Mashém and his mates concerning chipped arrowpoints implied that the process was hieratic and little understood by the body of the tribe, its place in the tribal knowledge, indeed, being similar to that of the brewing of the arrow "poison", which is the special work of shamans; and this information, comporting as it does with the rarity of the chipped points and

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[1] The initiative skill of the Seri was illustrated at Costa Rica some years ago, when the petty accounts for labor, etc., were kept by means of tokens stamped from sheet brass. While a Seri rancheria was maintained near the rancho, the store-keeper detected a number of counterfeits of his tokens, so well executed as to pass readily over the counter in ordinary exchange—and after extended detective work the counterfeiting was traced to the rancheria.

[2] American Anthropologist, vol. xi, August, 1898, pp. 310-328.

2: Kroeber E-5 (1930) 1931 NU31 Seri NU31

sounds like an expectable enough mythic idea, but seems involved with McGee's dubious conceptions as to totemism, discussed below. 114 193

The two-pointed fish-spear, with serrated points 6 inches long and spreading 5°, seen by Hardy (McGee, p. 193), is interesting because seemingly unreported in or near the area. 114 227

"Fishing" with staked pelicans who are then fed by free birds, is authenticated by the statement of Venegas for lower California, (McGee, p. 193). [226 231]

No fish nets, hooks, or lines were seen by McGee among the abandoned effects on Tiburon (p. 194). This is in accord with my observation. The abundance of sharks may interfere with net or deep water fishing.

The bow (p. 200) is of *palo blanco;* the release (pls. 28, 29), Mediterranean; the archer's position (pl. 29), with elbow above head, suggests a quick downward shot at a target or game lying on the ground not far away. 114 411

Mesquite, according to McGee (p. 207), is ground on the metate. Sr. Thomson told me of its being pounded in a hole in the ground. The Seri gave me the name a'kata for what I understood to be this earth mortar. According to Sr. Thomson's description, the flour from the first beans cakes and lines the cavity firmly, so that the bulk of the material is secured quite cleanly. In general, mesquite is mortar-pounded rather than metate-ground by the tribes from whom we have records, as is expectable from the woody nature of the beans. 114 252

McGee (p. 207) noted the viznaga cactus, Echinocistus, as rare in the Seri habitat, presumably owing to its use for water by the natives. I made the same observation on the mainland, but Sr. Thomson stated that along the roads the plant is being gathered for candying. 114 137

The one basket described by McGee (p. 208, fig. 24) is bundle-coiled and plain. The only one I saw in use among the Seri was ornamented with a plain reddish band. Sr. Thomson presented me with two which bear patterns (fig. 13), and showed me a photograph of a collection made by Mr. Davis for the Museum of the American Indian, Heye Foundation, nearly all of which were decorated, some fairly elaborately. Several of these are shown by courtesy of that institution in figure 12. As McGee observes, there is obvious resemblance to Southwestern baskets; especially of the Papago, Pima, and Apache. Southern California basketry is less similar. That of Baja California is unknown from specimens, though the mention of water-tight vessels used for winnowing and parching suggests a coiled tray of Seri type. The surviving tribes of Sonora other than the Seri use few baskets distinguishable from those of the non-Indian population. 114 285 [171]

2: Kroeber E-5 (1930) 1931 NU31 Seri NU31

in a paddle blade being cut separately from the shaft, the inventive step from attaching one blade to attaching two blades would have been insignificant—in fact, would be an improvement or variation rather than an invention. The determining factor as to its adoption would probably be the type of navigation as set by water conditions. This is borne out by the distribution of the double paddle, which clings to areas of open salt-water navigation or large bays approximating open water conditions. On rivers and lakes the double paddle would rarely help and often be in the way. In this way the varying association with skin boat, wooden boat, and raft boat seems accounted for. Another factor must be size of the vessel navigated. A broad or high canoe would scarcely allow of alternate paddling on both sides. This may be the cause of the absence of the implement on the Northwest Coast. Whether the Arctic and the California-Seri occurrences are to be historically connected, must probably be left an open question for the present. An answer in favor of connection will evidently depend on the establishment of sufficient other connections to set up a favorable presumption. Until then, the considerations just mentioned make the possibility of independent origin equally plausible.

The single-bladed paddles seen by McGee (p. 219) and myself were two-piece and hafted with nails. McGee is more interested in balsa propulsion by recumbent women with hands, shells, or unhandled blades. That such crude devices were used along shore or in bays often enough to be mentioned, is wholly in line with the conspicuous Seri indifference, slovenliness, and lack of standards; but it is also obvious that real paddles being known and made, these would be the ones taken on open sea voyages of a dozen miles in a region of notably variable winds and currents. The Seri are never fools in practical matters within their compass; and they could not have acquired their indubitable navigating skill by letting their women do most of their paddling with bare hands. The one woman I saw aboard was carried as a passenger across the Infiernillo.

What is typical of Seri habits is that the harpoon shaft is also used for poling, and the harpoon cord as anchor rope, tow-line along shore, sheet rope, and for tying a blanket to a mast and pole to serve as sail; just as the bailer of a leaky skiff is an enamel-ware plate or pot employed at other times for food. The whole harpoon, including the rod-iron point, but dismounted, seems regularly to be taken along on a transport voyage.

The Seri houses I saw opposite Punta San Miguel were like those described by McGee (pp. 221-223): long, narrow, low, and open at least at one end; but they were unroofed. There was also one of double length, and another "joined obliquely"—that is, annexes occupied by younger kin and their families. The lengthwise double house was open through, though constricted at both ends and the

2: Kroeber E-5 (1930) 1931 NU31 Seri NU31

is what their "shirt" (McGee, pl. 29) probably was. The fabrics of McGee's Mexican informant may refer to gunny-sacks made over into improvised imitations of civilized garments; or to single-element carrying bags. It is entirely possible that contact with the cloth-weaving tribes of Sonora long ago induced the Seri to shrink from habitual complete nudity; but it is difficult to imagine them producing even a coarse wearable cloth. McGee's interpretation of the historic sequence of Seri garments is of course wholly speculative.

The cradle shown by McGee (p. 226, fig. 30) consists of a kite-shaped hoop with eight sticks tied across it and a lashing thong passed back and forth across it half-a-dozen times. Even allowing for some slip of the parts in transport to Washington, this specimen is quite typical in Seri disregard of evenness, neatness, order, or finish. The Yaqui cradle illustrated by Hrdlička[7] consists of eight or nine lengthwise sticks or canes twined close together. The Lower Californians used a basket or a turtleshell. The Gila Pima and river Yuman cradle is of "ladder" type, and therefore similar in structure to the Seri except that it lacks the point at the bottom and has the sides parallel; it also carries a hood of wickered or twilled splints. As regards basic structure, one form of Maidu cradle is most similar to the Seri; just as the plan of the Yaqui one reappears among Miwok, Yokuts, and Mono a little further south in California.[8] It appears from this irregular distribution that so simple an apparatus as the open or flat baby-carrier, which can be just as serviceable without a definite technique or style entering into it, is likely to vary locally without much significance, and that its forms will indicate historic connection only when they are parallel in a number of details. In these respects it resembles house types. In both these objects, new "inventions," certainly of detail elements and perhaps of basic structure, seem to be readily made and adopted.

McGee's finding (p. 247) that the Seri are "not habitual stone arrow-makers" has a parallel among the river Yumans, and, at least partially, among the remaining Sonoran tribes. His conclusion (p. 259) that the *yerba de la flecha* (magot, Sebastiana bilocularis?) was an Opata but probably not a Seri arrow poison, seems sound. The plant was shown me on the island, and the Seri knew it as venomous, but volunteered nothing as to using it on arrows.

That the question of Seri cannibalism must be left open, with a preponderance of evidence against the practice (p. 263), also seems a conservative judgment.

As to shields, McGee learned of loose pelican pelts and turtle-shells (p. 264), I of armor and a large upright shield of hide. Both accounts may be right, one referring to emergency pick-ups, the other ——— to prepared defence or attack.

[7] AA 6, pl. 9, 1904.
[8] BAE-B 78:585, fig. 48, pls. 38, 46.

396 the extremities. Throughout the process the
[283] cord used for lashing was laboriously made
by hand and mouth by the women who ob-
[462] tained the fibrous raw material from mes-
quite tree roots, from the yucca or the
maguay. Three of the finished bundles were
lashed together to form a watercraft some
thirty feet in length and of four-foot beam.
These large balsas were buoyant enough to
carry several members of a family across El
Infiernillo channel. One-man balsas were
also made (Fig. 5) principally for use in
turtle fishing.

225 Except during the egg-laying season
411 turtles had to be sought from the balsa. The
Seris lacked tool sense in the extreme, but
their clumsy brains had devised a harpoon
for use against the turtle. The hard, pene-
trating point was commonly made of native
ironwood, but may also have been the sharp-
ened tooth of a sea lion or the shin bone of
a deer. It was fitted and firmly cemented
with mesquite gum to a short, hardwood
foreshaft whose rounded end fitted into the

[p. 197(C)]
[text continues on p. 198(B)]

3:Davis & Dawson E-5 (1922-1940) 1945
NU31 Seri NU31

225
[411]

ten- to twelve-foot main shaft. A stout cord was knotted to the foreshaft and carried along the main shaft to the hand of the user. When, from the quietly floating balsa, a

[p. 198(B)]

Class	Species Reported	Species Exploited	Percentages
Mammals	21	9	43
Birds	28	6	21
Reptiles and Amphibians	25	11	44
Fish	36	23	64
Molluscs	36	21	58
Crustaceans	10	2	20
Total:	160	72	45

These figures show clearly the dependence of the Seris on marine life for a major source of their diet. Today, pinta, bays, cubera and sardineros are their primary source of income with mant and sea-turtles ranking second in importance. Several species of clams, limpets and gastropods supplement this diet.

All other animals represent only incidental additions to the menu. During the last war, sharks and mantas were hunted extensively for their liver, then a source of vitamin D. But since the war, the demand for shark liver has declined and because of this, a considerable income for the Seris has been lost. Shark and manta fishing have been abandoned for these fish were taken only for the commercially profitable liver and not for their flesh.

Fishing and Hunting

Seri fishing techniques are simple. In the past they used double-pronged spears and for the larger fish, harpoons. Today the spears are employed chiefly in fishing while the harpoons are reserved exclusively for sea-turtles. Hook and line fishing was introduced after 1930, as Kroeber (1931) saw none during his visit to Kino in 1930, and it is now the standard method of fishing. An abortive and unsuccessful attempt was made several years ago with net fishing. Another change has occurred within the past fifty years. The old balsas have been replaced by flat-bottomed plank boats outfitted with five-horsepower motors or sails. These motors, incidentally, are leased from the Mexican fish traders because none of the Seris are rich enough to own one.

Bait is obtained by dynamiting schools of small fish in coastal waters or by collecting them at low tide in the tidal pools and from under rocks. Fishing usually begins at dawn and lasts until noon when, as a rule, all of the "pangas", as the boats are called, return to Desemboque. In stormy weather no fishing expeditions are made and when this occurs, starvation becomes a real menace. Harpooning of sea-turtles takes place far out in the Gulf. It is done only at night in exceptionally calm weather by the light of torches or Coleman lanterns.

Hunting as it is done today has changed from the time of McGee's visit in 1894-95. The bow and arrow has disappeared completely except for a crude and diminutive form used as a toy by small boys. Iron spears once used in shark and manta hunting are now carried primarily as a weapon against the numerous and much feared rattlesnakes. They are said to be used occasionally in the peccary hunt. Old .22s or 30/30 rifles are owned by several of the men, some of whom specialize in hunting.

Game pursuit is usually done on foot, mostly in the winter and very little in the summer. The intense heat of the desert in the summer makes hunting unattractive. The most frequent trophies are the Sonoran bighorn, peccary, cottontail and jack-rabbits. Sometimes, semi-wild burros, running loose on the adjacent extensive Mexican "rancherias", are poached for meat. The peccary is the only animal hunted with the aid of dogs. Large rodents are dispatched by sling-shot, stick, stone, or shot with a .22 caliber rifle. Birds, such as sea-gulls, ducks and pelicans, are clubbed, stoned or shot with a small caliber rifle.

While fishing and hunting are primarily men's occupations, the gathering of the terrestrial and marine animals is almost exclusively women's work. Rattlesnakes and other reptiles are often killed and brought to the encampments by the women from their morning trek into the desert after firewood and fruit. Small fish and marine invertebrates in the tidal pools are collected by women, aided by children of both sexes.

Preparation of meat is quite simple. It is either boiled in hot water with salt added as the only seasoning or else roasted whole, if small enough, over an open fire with or without a grill. The use of spices such as tomato sauce, chili, peppers, and the like, depend upon the tastes of the individuals and also upon the availability of money.

In individual competence as hunters or fishermen the men show a great deal of variability. Some excel in fishing while others do so in hunting. Hand in hand with this, goes the degree of knowledge of the local natural history and, as expected, the best fishermen lead in the knowledge of fishes while the best hunters possess the most extensive knowledge of terrestrial animals and insects. It has also been observed that boys were far ahead of adults in their knowledge of inconspicuous or otherwise commercially unimportant creatures such as insects, obscure marine invertebrates and small fishes. Interest in the commercially or otherwise economically important forms of animals unquestionably becomes overwhelming in adult life while much of the natural history lore learned in youth is forgotten.

Food Preferences and Taboos

A number of animals were reported as being a part of their diet in the past but which were not used at the present time. Several species of shells collected from kitchen middens along the coast were thus identified. In some instances it has been denied that a certain animal was used for food; yet, later when such a beast was brought to the camp, it would be added to the menu. Undoubtedly, some of the species were held in low esteem as food and the Seris preferred not to admit eating them.

Large fishes, especially pinta and baya, sea-turtles, and the very large chuckawalla lizard, which is brought back from rare expeditions to San Esteban Island, are the preferred cuisine. Cochi fish, also called puercos, are disdained. Large catches of these were frequently brought in from the sea, only to be unceremoniously dumped on the beach and left to the dogs and the vultures. But when other fish were scarce, the puercos were eaten. Pelicans, once an

5:Dawson N-5 (1940) 1944 NU31 Seri NU31

an important handicraft among these Indians. They made a shallow, coil type basket such as is characteristic of many southwestern tribes. The Seri basket, however, was remarkable for its extreme lightness in proportion to capacity, a quality due to the spongy character of the coil made of a whisp of splints of the torote. Several torotes are found in the region, the commonest species being *Jatropha cardiophylla*. Also used were the torote amarillo, *Jatropha spatulata*, torote blanco, *Bursera microphylla*, and torote prieto, *Bursera laxiflora*. The woof consisted of splints of palo blanco, *Acacia Willardiana*, or of baraprieta, *Caesalpinia gracilis*, deftly interlaced by means of a bone awl to form a smooth, practically waterproof utensil.

In pre-Columbian times the Seris commonly sought wild game, mostly deer, without the aid of weapons, using only their tremendous physical endurance against their prey, chasing the animal until it was exhausted and could be thrown to the ground. With the introduction of iron, however, the development of the bow and arrow achieved prominence, for the shaping and fastening of points had long retarded the exploitation of these implements. Few straight stemmed or straight grained plants grow in Seriland suitable for making arrow shafts, but on the flanks of the deeper gorges of Sierra Seri and Sierra Kunkaak on Tiburon Island, the Indians found one leafy shrub that filled the need, *Sapium biloculare*. The juice of this plant is also said to have been used for arrow poison. The bow was preferably of palo blanco, wrapped and strung with mesquite fiber cord.

The modern Seri tribe consists of barely more than 100 souls, with early extinction threatening from imported diseases. Their natural habits are now vastly modified and they live a comparatively sedentary life near the village of Kino, scavengering for fish heads and other refuse discarded by the fishermen, now and then fishing for themselves when in need. Every year, however, they trek off to the cactus forest for the annual feast, and in late summer many may be seen camping among the mesquite groves near the Kino well where an abundance of both mesquite beans and water makes for easy living.

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

McGee (1898:214)

262 estimated that maritime resources provided two-thirds of the Seri diet. Kroeber (1931: 20), approximately 30 years later, estimated the proportion at about three-fifths. In the winter of 1960, 30 years after Kroeber's visit, the Seri were obtaining at least three-fifths of their food from the sea.

226 In pursuit of their main source of subsistence, the Seri travel up [221] and down the narrow coastal band. In the winter of 1960 they were [361] occupying one temporary camp toward the southern end of the band [462] and a permanent camp at the northern extreme. Seri women and [857] children gather mollusks; fishing is a male occupation. In addition to gathering and fishing for their own needs, the Seri dispose of a 226 portion of their catch on the commercial market. This enterprise 439 began about 1930, and was encouraged by the establishment, in 1958, 474 of the Sociedad Cooperative de Produccion Pesquera Seri with the cooperation of the Mexican government.

The Pacific green turtle constitutes the largest single item in the 225 Seri diet for at least six months of the year—from January to June— 262 and it is also caught occasionally at other seasons. In 1896 McGee estimated that it provided 25 per cent of the total food supply. Emphasizing the intimate ecological relationship between the Seri and the turtle, McGee (1898: 186-187) wrote:

> ... perhaps half of the aggregate life of the tribe is spent within easy reach of its [the turtle's] feeding and breeding grounds, and tribesman and turtle have entered into an inimical communality something like that of the Siouan Indian and buffalo in olden time. ...

[114] Kroeber (1931: 20) believed that McGee stressed the Seri-turtle relationship too strongly and overestimated its contribution to the diet. 237 McGee (1898: 187), in support of the importance of the turtle to the Seri, points to the fact that the turtle carapace is used for, among other things, a house covering and buckler, a cradle, a coffin, and footgear. The carapace is currently used for supporting and roofing 262 houses and as a starvation food. The contribution of the turtle to the diet varies from year to year, but observations made in 1960 suggest a range of from 15 to 20 per cent as a reasonable estimate.

Seri men fish for turtle from boats, which are manned by two or 225 three men and are propelled by oars, sails, outboard engines, or any [501] combination of the three. The boats operate either individually or in groups. The men fish by night or day, depending on the weather and sea conditions. When they fish at night, they use a kerosene [416] lamp to attract turtles to the surface. The principal implement is the harpoon.

● 411 The harpoon tackle of the Seri is illustrated in Figure 1. It consists of a foreshaft (c-h), a mainshaft (j-k), and an extension cord (i). The component parts of the foreshaft are a projectile point (c), a gasket (d), a wrapping cord (f), a hafting base (g), and a lead cord (e and h). In preparation for turtle fishing, the hafting base (g) is plugged into the socket (j) on the main shaft (k), and the extension cord (i) is looped through the lead cord (h).

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

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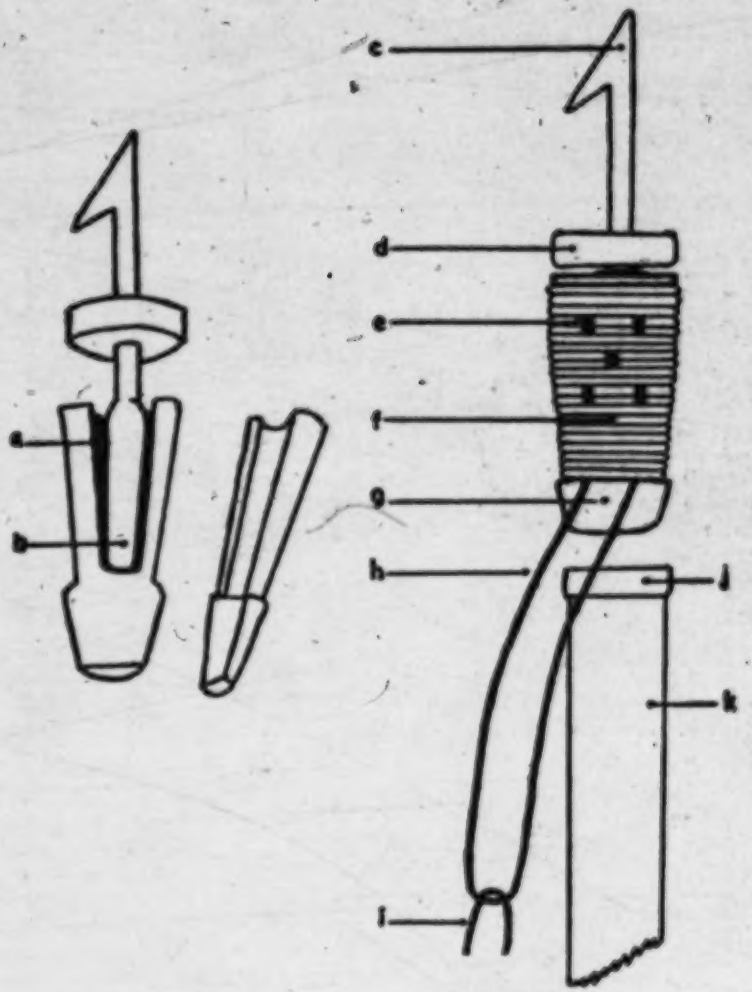
Figure 1: Reed Harpoon Toggle



a Mosquito gum sealing
b Point base
c Point barb
d Gasket
e Lead cord interwoven with wrapping cord
f Wrapping cord
g Hafting base
h Lead cord
i Extension cord
j Mainshaft socket
k Mainshaft

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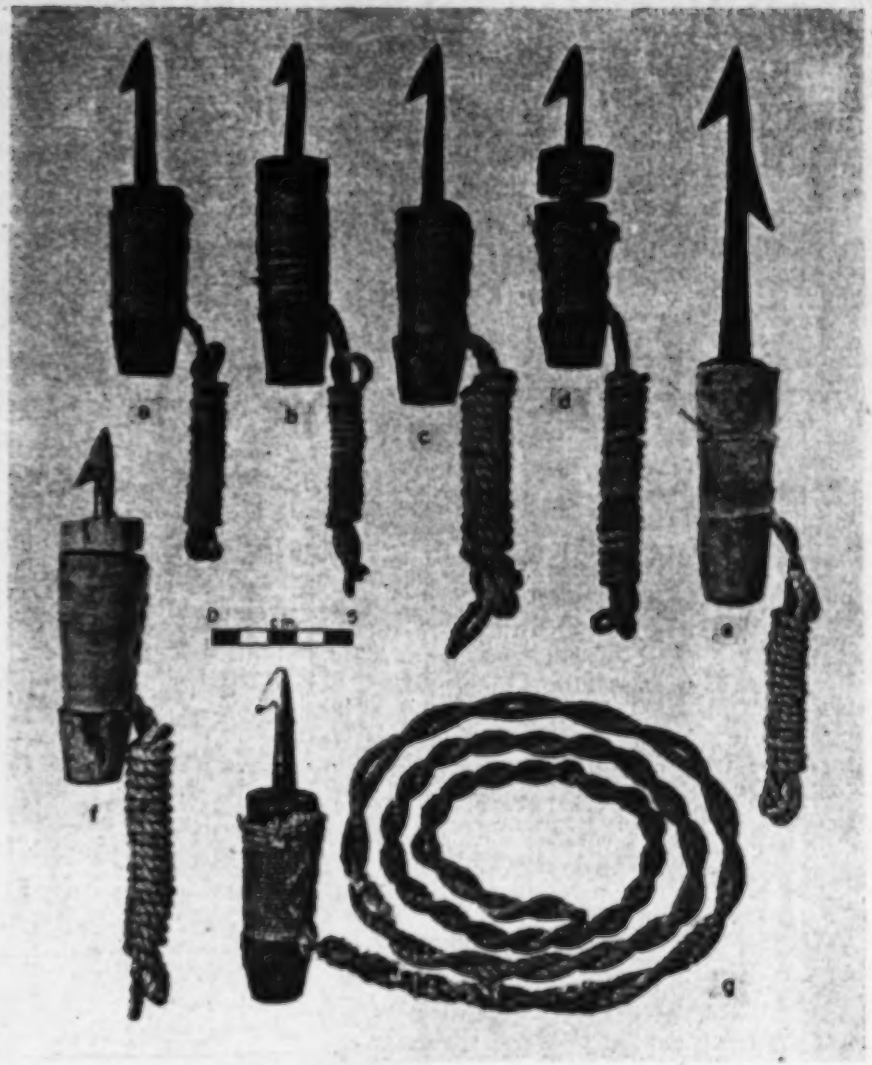

PLATE 1: FORESHAFTS MANUFACTURED BY SEVEN SERI FISHERMEN
(see Table 1 for specifications) A

[facing page 364]

A [Table 1 is on page 367, category 116: Analyst]

In fishing for turtle, one man stands at the bow of the boat, holding the mainshaft and extension cord in one hand. When he sights a turtle, he propels the mainshaft at the animal's carapace, retaining a firm grip on the mainshaft and the extension cord. If it is struck, the turtle lurches away, loosening the foreshaft and unplugging it from the mainshaft. Tired eventually by the tension applied by the fisherman on the extension cord, the turtle is finally stunned by a wooden club and lifted into the boat.

There is evidence that the turtle-fishing complex has considerable time depth and stability. The Seri were using similar apparatus and methods at least as early as 1825 (Hardy 1829: 296-297). At this time they employed balsa boats rather than wooden boats with outboard motors and torches of cactus fibers instead of kerosene lamps. The complex continued, apparently with little change, through 1896 (McGee 1898: 187-193). Wooden boats and kerosene lamps began to be adopted during the 1920s, and outboard motors were introduced in the 1940s.

During the entire period of 135 years (1825-1960), however, the harpoon tackle underwent only one important innovation. The gasket on the foreshaft was introduced by a Seri Indian about the year 1935. The addition of the gasket was related to, and coincided in time with, the first attempts of the Seri to supply turtles to the commercial market. When they caught turtles solely for their own use, they did not need to keep the animals alive for very long, but when they began to sell them it became important to preserve them alive until they reached the market. The gasket acts like the hilt on a sword, preventing the entrance of the foreshaft hafting into the turtle's body. Through its contact with the carapace, it restricts the rotation of the point within the animal's body and provides a seal which inhibits the loss of blood, and thus prevents early death. After the turtle is stunned with a club and lifted into the boat, the foreshaft is removed and the hole which it made is stuffed with a piece of cloth.

Seri men were shown a harpoon foreshaft from a museum archive and asked what it was for and whether they themselves made similar ones. If an informant acknowledged that he made them, he was asked, at the minimum, to detail the materials he used, the procedures he followed, and the approximate amount of time it would take him to produce one. Later he was requested to show the field worker examples of the foreshafts he had made. Of the approximately 40 adult Seri males, about 25 were available for questioning. Of these, approximately ten did not make foreshafts or had made them in the past but did so no longer; they were mainly older men and those engaged in the administration of the Sociedad Cooperative de Produccion Pesquera Seri. Five men either would not or could not volunteer information. Data were obtained from the remaining ten adult men and from one eight-year-old boy; they include 21 foreshafts made by these eleven people.

The materials from which a foreshaft can be shaped and assembled vary within what is available in the Seri environment. Iron

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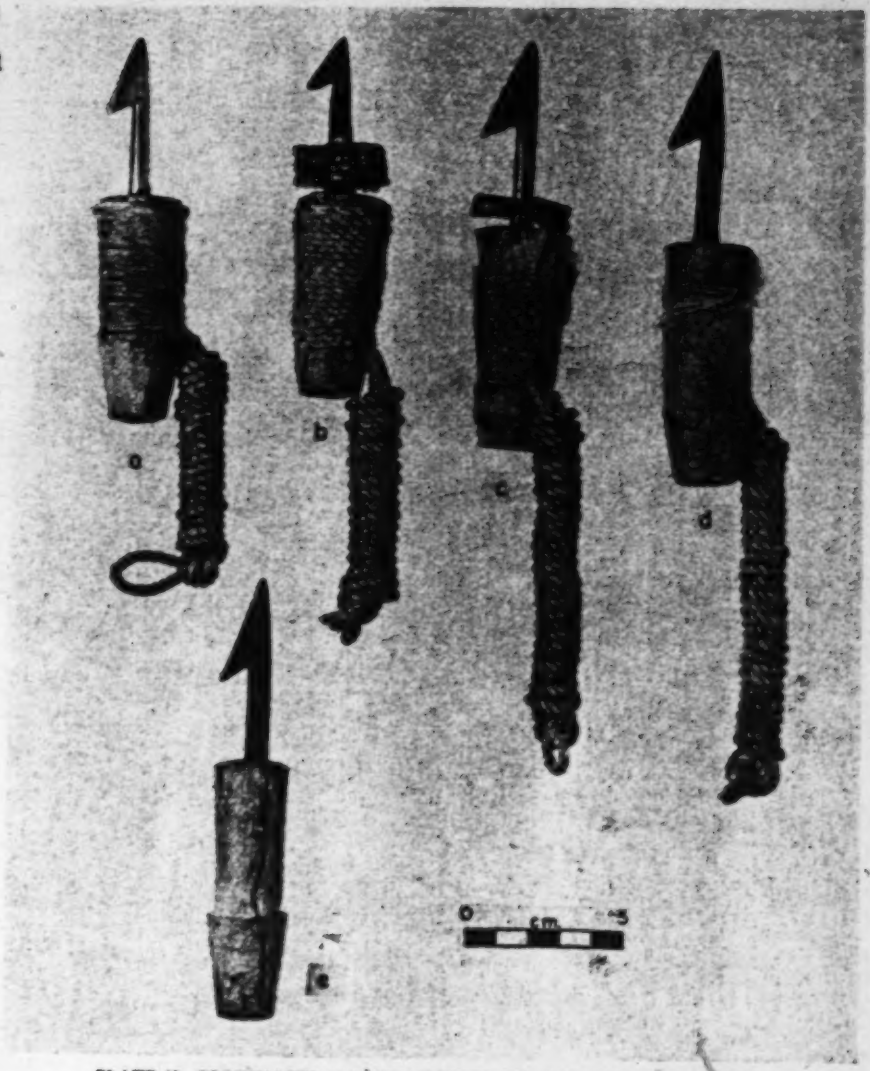

PLATE II: FORESHAFTS MANUFACTURED BY ONE SERI FISHERMAN, FRANCISCO BARNETT

(see Table 1 for specifications)

[Table 1 is on page 367, category 116.- Analyst]

[Facing page 365]

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

for the point may come from the transmission of an abandoned car or from flotsam. The wood for the hafting can be mesquite or ironwood, both indigenous in the area; waste from boat construction or other scraps of wood may also be used. Rubber for the gasket may be obtained from a worn automobile tire. The wrapping cord and lead cord are store bought, and mesquite gum is used to seal the hafting.

In manufacturing foreshafts Seri fishermen use three tools: a knife, a hacksaw blade, and a triangular file. The hacksaw blade is used to cut an appropriate length of metal for the point and to rough out the barb; the triangular file is employed to finish the point barb and stem; the tang of the file is used to puncture the hole in the gasket which is to receive the point. The shaping of the hafting and gasket, and the cutting and wrapping of the lead cords, are accomplished with a knife.

With regard to the method of manufacture, all fishermen report essentially the same procedure. They describe the pattern as a series of steps under two headings: (1) shaping and (2) assembling. Two individuals did not mention steps 1c and 2b, and the others considered these two steps to be optional.

1) Shaping
   a) Shaping the metal into a point
   b) Shaping the wood for hafting the point
      α) Shaping the general form
      β) Splitting the form lengthwise and grooving each half to receive the point (see section in Figure 1)
   c) Shaping the rubber for the gasket

2) Assembling
   a) Placing the mesquite gum in the grooved portions of each half of the hafting (see section in Figure 1)
   b) Placing the gasket on the point
   c) Inserting the point base into the hafting and reuniting the split hafting form
   d) Wrapping with the wrapping cord and with it interweaving the lead cord
   e) Refinishing the hafting base to fit the mainshaft socket

Four men were able to explain the foregoing procedure in detail and were in agreement in the following matters. The point is shaped before the hafting because its length determines the length of the latter, and because the diameter of the point base dictates the grooving of the haft. The gasket is shaped after the point and the hafting because the diameter of its hole is determined by that of the point base and its total diameter by that of the hafting. The mesquite gum then secures the point and seals the hafting. Interweaving the lead cord with the wrapping cord secures the former to the hafting.

The amount of time required to complete a foreshaft shows marked variation. This is not primarily a function of the working habits of the artisan. If all the materials are present, the time it takes to make a foreshaft ranges from four to eight hours, but if all the materials are not available, as much as a year may be required. There may, for example, be a considerable lapse of time between the shaping of a point and the shaping of a gasket when material for the

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

gasket is not available. If a Seri needs a foreshaft for immediate use he can dispense with the gasket, but all the other materials are necessary to make the tool functional. As a result, a Seri may have one or several foreshafts in the same or in different stages of manufacture (see Plate II),[2] and he may also have a number of shaped or unshaped points or pieces of metal but few finished foreshafts.

If an archeologist were to excavate the remains of contemporary Seri culture at some time in the future his observational field would be limited to the results of behavior. Under ideal conditions, the data available to him for reconstructing the turtle fishing complex might include foreshafts, the materials from which and implements with which they were manufactured, and turtle carapaces.

All 21 finished foreshafts (Plate I)[1] exhibit an obvious general similarity despite the fact that they range in age from one to eight years. Twenty of them have a single barbed point. Plate II[2] illustrates the general shape of the hafting, the place where the hafting has been split, a mesquite gum sealing, and a refinished hafting base—a combination of features that is exhibited in all 21 foreshafts. The manner in which the lead cord is interwoven with the extension cord is similar in all foreshafts except those in which either cord has been repaired. In nineteen cases (excluding one very long and one very short point), the length of the point beyond the hafting ranges from 4.4 to 6.1 cm. With three exceptions (one long and two short) the length of the hafting ranges from 5.8 to 7.8 cm. In all but two examples the hafting is longer than the point. The difference in length between the hafting and the point above the hafting varies within a range of 0.1 to 3 cm. Thus, with the exceptions noted, the maximal variation with respect to these measurements is small—1.7 cm. for the length of the point above the hafting, 2 cm. for the length of the hafting, and 3 cm. for the difference in length between the hafting and the point above the hafting (see Table 1).[3]

Examination of the three available sets of foreshafts produced by single individuals reveals a smaller range of variation within each set than within the entire collection. In four foreshafts of Juan Moreno the length of the point above the hafting ranges from 4.9 to 5.2 cm., and the length of the hafting from 6.1 to 6.7 cm. The sets produced by Francisco Barnett (see Plate II)[2] and by Miguel Barnett show a comparable restriction in the range of variation. A comparison of the three sets, however, shows that their measurements are similar enough to each other to provide little basis for distinction. The range in length of the haftings of Juan Moreno (6.1 to 6.7 cm.), for example, overlaps that of the haftings made by Francisco Barnett (6.4 to 7.7 cm.).

Variety in the 21 finished products taken as a group, other than that due to differential age and use, is most evident in one particular respect: eight of them lack a gasket. Each owner of foreshafts without gaskets was asked to explain this absence. Two could not or would not give an explanation; five replied that rubber was not available; and one man, Ignacio Molina, stated that he omitted a gasket be-

[1] [facing p. 364] [2] [facing p. 365] [3] [page 367]

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

TABLE 1
Foreshaft Specifications

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Manufacturer	Plate Reference	Approx. Age of Artifact	Length of Hafting (Centimeters)	Length of Point (Centimeters)
Ernesto Dias	Ia	2	6.5	5.3
José Estorga	Ib	6	6.5	5.6
Francisco Garcia	Ic	4	6.5	5.8
Alberto Morales	Id	5	5.8	5.7
Ignacio Molina	Ie	3	8.7	11.5
Louis Moreno	If	3	7.8	4.8
Ramon Perrales	Ig	3	7.0	4.4
Francisco Barnett	IIa	1	6.8	5.2
	IIb	2	6.4	5.3
	IIc	2	6.8	5.9
	IId	2	7.3	6.1
	IIe	–	7.7	5.8
Miguel Barnett		3	7.8	5.0
		3	6.0	4.9
		5	6.1	4.5
Ernesto Corrales		1	3.1	2.8
(8-year old boy)		1	3.0	4.2
Juan Moreno		7	6.5	5.0
		7	6.7	4.9
		8	6.7	5.2
		7	6.1	5.1

cause he did not believe it would help retard death. This man, interestingly enough, is the nephew of Alberto Molina, whom the Seri believe responsible for having introduced the gasket. The foreshaft produced by Ignacio (Plate Ie) is the most divergent one in the entire collection. It is, for example, the only one in which the point has two barbs and, except for those made by the eight-year-old boy, the only one in which the length of the point above the hafting exceeds that of the hafting. The finished products also show some variation in the source of the rubber used for the gasket and in the kind of wood used for the hafting. Six of the eight gaskets are shaped from an automobile tire, two from scraps of rubber of which the men did not recall the source. Three haftings (Plate Ia, d, g) are made of ironwood, all the others of mesquite, which is easier to obtain than suitable ironwood or nonindigenous woods.

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Discussion

The foregoing example is designed as a paradigm to illustrate how observations on ongoing cultures might be adapted to the problems of archeological reconstruction. It is, of course, imperative to focus on behavior where matter is changed in some way, because it is only in altered matter that behavior is protracted through time. The example is deliberately selected to capitalize on an important area

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262 178 I have no idea, of course, what the diet may have been in the past since only archaeology can suggest the answer. But I am sure that there has been much change in their diet since Kroeber saw them, not in the basic pattern but in the composition. With the introduction of hook and line [177] fishing, the percentages swung in favor of fish, [226] while decimation of the marine turtle cut down the importance of this animal. Simultaneously, 262 the Seris now have available manufactured or [177] imported Mexican food items: flour, sugar, rice, [439] potato (when no one is looking; potatoes are not supposed to be sold to them because they make *tepache* from them which makes them grossly ½ fish in cans, coffee and tea. Dependence on the products of the desert has dwindled. Rattlesnakes, desert turtles and chuckawalla still find their way to the Seri kitchen but not too frequently. Pelican and sea gull will be eaten only when rough times beset them but are disdainfully refused at other times. My own estimates, impressions not supported by any attempt to measure their diet, are as follows:

fish	50+%
turtle	8
Mexican import	20
desert plant	7
desert land animals incl. stock	5
shellfish	10
total marine origin	68+
total desert origin	12
imported origin	20

224 178 [685] Another important change in the pattern is the unquestionable decrease of hunting (other than marine animals) in Seri life, as of the domestic stock stealing, the place of which has been taken in a way by the dependence on manufactured foods and items. Hunting nowadays is done rarely and only few individuals will devote some months out of the year to it. Stealing of domestic stock [685] has ceased for practical purposes, since in the past it lead to virtual extermination of these Indians. Occasionally the Seri kill off a semi-wild burro, herds of which run about loose in the desert or they'll get leavings off one, hunted down by a Mexican trader or fishermen.

●411 224 [857] The Seris' basic tools of game procurement have changed. Bow and arrow were still much in evidence and in use in McGee's time but seem to have gone out soon after. Kroeber did not mention them and by now they are quite extinct, except as clumsy toys little boys use to play with. The throwing stick is still used on rabbits—any stick one can scrounge on a moment's notice will do for the purpose. If any traps or falls had been used we do not know of them. Accidental stones may be used much in the same way as throwing sticks. In general, various sorts of fire arms, mostly .22 and .38 [177] caliber are owned by a good many Seri men and have replaced other weapons in the terrestrial hunt.

226 411 177 More important are changes in the fishing procedures. Formerly spear and detachable harpoon were their only marine weapons. Even as late as 1930, during Kroeber's visit, the Seris made no use of hook and line. But now, hook and line of

[P. 7A]

[apparently a line of type has been omitted here-Analyst]

226 411 177 commercial origin are their main instruments of fishing. To this they added dynamite, sometimes with disastrous results to themselves, mostly as a way of securing bait. Single-pointed fish-spears which loomed so importantly in McGee's account have gone the way of the Dodo for its original purpose and transformed into iron bar lances, now used largely as weapons against rattlesnakes that men encounter in their desert roamings. However, in the forties, when the Seris spent a great deal of time getting sharks and huge rays, they killed them with these weapons.

226 411 What retain some importance are the harpoon and the two-pronged spear called "puiero." The two-pronged spear is one of their oldest weapons. The construction is much the same as when McGee visited them. The spear is used mainly to stab large-size fish, the giant *bais* or *mero* for example, after it has been brought up on the line. The harpoon is now exclusively a weapon for the turtle [225] hunt.

226 177 [157] An interesting fate met an effort to teach these Indians net fishing in 1947. They tried, ruined the nets and never took it up since. The instigators were Mexicans, the fish traders. I suspect that Seri individualism had a great deal to do with their lack of interest in net fishing which after all demands a certain amount of cooperation. With the hook and line fishing, men can have much more their own way.

501 177 648 An added "tool" of the Seris is the plank boat. The balsa which McGee still observed during his visit, had already vanished by the time Kroeber came to the Seriland and had been replaced by these boats. The boats are flat bottomed but good sized. The material was provided by the Mexican government. Boats are usually propelled by 5 hp. motors leased from the Mexicans (no Seri is rich enough to purchase [439] one) who also sell them gasoline and oil at exorbitant prices and in return buy Seris' catch of fish and sea turtle for low prices. At the time of my visits these amounted roughly to less than a peso [435] per kilo of the flayed, degutted and cleaned fish (less than 8 cents) with fluctuation up and down the scale depending on the kind of the fish, and to about 30-50 pesos for medium to large size "cahuama," the live marine turtle.

501 648 The Seri boats are also propelled by paddles and sail—this is always the case with the families who wish to stay away on Tiburon for some time. The Mexicans will not lease them their motors for such trips even if the Seri, some of them at least, have enough knowledge of the motors to repair minor stoppages—a demonstration of the fallacy [114] of McGee's idea that they are genetically unable to handle tools. In this respect, Kroeber's (1930: 25) estimate of them is closer to the truth.

462 Sexual division of labor in procuring food goes on, much the same as it had 70 and 30 years ago, with the sole exception of the imported goods. [439] Here purchases are made either by men or women or by children, depending on who at the time has the cash and what one wishes to buy.

Fishing is still done by men and so is hunting. Women still concentrate on gathering, whether of

9:Malkin E-5 (1953-1955)1962 NU31 Seri NU31

III

MAMMALS

262 water for a week until it escaped. There was
[231] no intent to do away with it and serve it up for dinner later on.

The 3 species reported as eaten in the past are kangaroo rat, sea lion and the ringtail cat or
[252] cácomistle. Of these the little rodent had been supposedly "boiled in hot water with salt" which
[261] method of preparation may indicate that it happens quite recently yet. It is quite possible that in times of famine this animal is still used. The sea
[432] lion has been reported as "eaten once a long time ago. All of it. But not now. Its hide was once sold also but now it isn't used at all." This conflicts
[114] with McGee's statement (McGee, 189:202) that there was a taboo on eating sea lions among the Seris and there is no way to reconcile the information.

[114] McGee's report may be as truthful as are the uncertain and hazy comments of the present day Indians.

224 On the other hand, the cougar belongs to a very dubious category, unless we can rely on Miguel Barnett's memory. All 4 of the younger informants emphatically deny that the cougar has ever been hunted for meat. But Miguel Barnett claimed that this has been done in the past, although he could not tell how long ago. Kroeber says nothing about this animal and this makes it difficult to date the events. At the time of Kroeber's visit, Miguel was at least 25 years old and the cougar could have been hunted either
[262] then or earlier. But today the Seris do not eat the flesh of the big cat and their abhorrence of it has been confirmed by the Mexicans to whom I talked about the subject, and who relish cougars' meat. This apparent distaste for the *el tigre's* flesh may
[178] well be a recent development quite unconnected with the lack of weapons. McGee (1894: *loc. cit.*) casually mentions that the Seris hunt both cougars
[411] and the jaguars but cites no evidence for it. Yet in his time Seris' almost only weapons were the
[177] bow and arrow and a lance which today has been replaced by firearms. I am unable to explain this contradictory behaviour.

262 Finally, there is the Ringtail cat or cácomistle. Although this beast has been reported as part of the diet, the information isn't too reliable. I had
[124] no way of checking whether this was the animal the Indians had in mind. Their description of it seemed to answer some other unspecified animal and their answers were confused. The fact is that the Ringtail cat does occur in the Seri territory and they are surely familiar with it.

Of the remaining 11 species none were ever mentioned by any of the informants as having been ever eaten. Their denial of eating the coyotes were most vehement. Coyote figures out probably

[P.98]

287 On the other hand, the hides of all of these three animals had been traded off to the Mexicans, [439] but this again was now discarded. This would [182] merely indicate the fluctuation of collapse of the demand from the outside rather than any intrinsic change in the Seri values.

Incidental use of the horns of the bighorn had been denied by all of the younger informants although admitted by Miguel Barnett. However, as I observed, the horns of this sheep are sometimes [415] used as drinking cups. Several of them were [181] lying around in the usual disorderly way of the Seris, now and then picked up for drinking and then again discarded. But the use of them struck me as most casual.

224 *Hunting:* Hunting takes a variety of forms and includes a variety of weapons, from .22 cali- ●411 ber and .30/.30 caliber rifles to spear, stone and throwing stick. Bighorn and deer are followed on foot but without dogs, probably because without dogs they may be easier to surprise. This hunt takes place in daytime. But the peccary is hunted with both the spear and the rifle and with a pack [231] of dogs, and only by the adult men. There is an [885] emphasis on the "adult," this surely owing to the certain amount of danger connected with the chase of the peccaries. The weapons of the chase dwindle to the throwing stick or a stone when it comes to the jackrabbit. Badgers, I was told, are also killed with the same weapons. But formerly, the informants said, bow and arrow was much instrumental in hunting the smaller beasts.

* 825 Other animals, according to the Seris, are not [224] hunted now, nor had they been in the past. Justification for this ranged from the usual "because it isn't done" to the more specific reasons. The skunk is "neither hunted nor eaten because it [225] stinks." The whale is considered "too big to kill" while the killer whale is "too fierce." The harmless *tonita* (dolphin)[1] was reported somewhat hazily as "sometimes killed" but the comments were inconclusive and were denied by other informants.

[224] Two other species had been reported as hunted in the past but not at the present time. The Ringtail cat was supposedly hunted with the slings while the sea lion was hunted down "with a rifle [225] or rock but not with the harpoon because of its great strength, it would break the harpoon." This, however, was "perhaps 25 years ago." Why the sea lion is no longer pursued is uncertain, unless there is again a lack of demand from the outside while the Serian economy is so much centered on fishing.

231 *Pets:* How many species of animals are kept as pets on and off is difficult to say. Like most hunting and gathering groups the Seris are fond of pets but their interest in them depends entirely on an accidental capture. Among the wild mammals of the region there are few that could be captured and tamed easily. The badger which I mentioned already was the only mammal I saw

[237] [1] I have seen bones of beached whales used for stools and [352] also the skull of the *tonita* used as a chair. But it must be remembered that these animals got stranded on the beach. They were not deliberately hunted down.

[P. 10 B]

1/2 [i.e - deer, bighorn and peccary - Analyst]

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262 pelicans are not; they are regarded as "bad food," unfit for eating. No further explanation has been offered here and it might be that the same sort of prejudice works here as in the case of the adult birds. Otherwise, reasons for rejecting eggs for food are probably a matter of mere customary attitude without any particular rationalization. In a few instances, the dove being one example, the eggs were said to have been rejected because they were "too small to bother."

237 291 Other economic uses made of the birds are extremely few. At one time, the pelican skins were used for clothing and, in fact, in McGee's time they represented, perhaps, the most important item of clothing for the Seris, having been worn in shape of wrap-around robes, usually covering the lower part of the body. Moreno reported these robes as still in use "30 years ago or more," in the early twenties, but in Kroeber's time these [177] robes were already discarded in favor of the European garment. The Seri, nevertheless, still preserve skins of these birds—the white pelican, [439] larger of the two, always had been favored here—and occasionally sell them to the visitors. Another 237 use made of the feather is in the arrows. The ● 411 cormorants, heron and the owls had been especially mentioned in this connection. But it is certain that they were not the only birds so exploited and also that this particular use went out of business along with the disappearance of the bow and arrow as the principal weapons. The use of feather for arrows may well continue into the present in a somewhat degraded form. The Seri boys play a [857] great deal with bows and arrows, shooting them at any moving available target. They'll pick up any available feathers.

Pets

231 Somewhat desultory use is made of birds as pets. During my visit I have seen doves and an egret kept in houses as pets by the adults and fed quite frequently. The number and variety of birds which may become pets in households may well * 825 be larger. Pelicans and sea-gulls are less fortun- 857 ate. They are often shot at and over-powered by the boys. But instead of taking them to the households, the boys stage games, shooting them at point blank from bows and arrows and pea- shooters. These somewhat bloody executions take place almost every day. The pattern is the same. Only the subject of the game changes, depending on the available species of bird or animal.

Hunting

223 It is hard to speak of hunting in connection with birds, because there is so little effort made to go out and get them. The main exception is the duck and this, as I already mentioned, is hunted on Isla Patos and clobbered at night with sticks and stones in great numbers. This is one of the few instances in which the Seris will go out of their way to get a bird. Sea-gulls and cormorants and, more rarely, pelicans are dispatched by pea- [411] shooter (stone), sticks, small clubs and, on occasion, with a shot from a .22 caliber rifle.

[P.18A]

262 them to their shelter and held them there for several days before they and their families finally ate them up. The turtles are also a well-liked item.

As already indicated in some instances there exists preference for a particular part of an animal. Of the Gila monster only the fat tail was said to have been eaten, and of both rattlers, the head and the tail are discarded on the grounds * [825] that they contain toxin. Finally the toad and the gecko and *Xantusia* are all rejected as completely venomous.

178 262 It is also evident that changes in the Seri taste have occured in the course of the past several decades. Some animals are on their way out as food, and here we have the Gila monster, the whipcoach, the red racer and smaller lizards. In several cases, and this includes the Gila monster, the responses indicated that the animal had been eaten in the past. I also observed that on the sly, the Seris would eat them when other food was in short order. But they are reluctant to admit this and often altogether denied it.

Hunting

224 [225] Most reptiles are captured by hand or else killed with a stick, stone or pea-shooter. Except for the turtles, the Seris will not make special expeditions. But it is certain that if they find themselves on any of the islands near the shores of Baja California they will go ashore deliberately in search of the chuckawalla.

225 The turtles are another matter. Here now, just as in the past, special expeditions are made in order to get them. These expeditions take place [501] nowadays in the usual flat-bottomed plank boats, either motor or oar propelled. The hunt takes place only during unusually quiet and dark nights, when the Gulf is smooth and calm and there is neither wind nor ripple. With the slightest disturbance, [354] turtle fishing is imposible. It is all done with the torch lights or Coleman lanterns. The principal • [411] and only weapon is the harpoon, identical with that described and illustrated by McGee. The turtles are then harpooned, dragged into the boat and either left alive, when the hunters have a sale of live ones in mind, or pounded to death with a [251] club or oar, quartered and then either consumed on the spot or else dried and salted.[10]

[224] [462] While the collecting of the smaller animals usually falls to the children or women, turtle hunting is men's job. Men, too, usually get the chuckawalla because they usually visit more distant islands.

Pets

231 None of the reptiles are pets in a real sense. Those few that might be kept are only held until the day when they are butchered and eaten. It is motivated more by the wish to preserve fresh food than by any affection for the animal. The turtles, the tortoises and the chuckawalla belong here. Occasionally a Seri boy will string a lizard, a *Scel-*

[10] The loggerhead is hunted in the daytime because, owing to its great strength, night hunt would be too dangerous. Two harpoons are always used on it, while for the smaller species, one harpoon usually suffices.

[P.23B]

226 177 and, from all accounts, also from the Japanese whose trawlers worked in the Gulf in the late 1930's. Today, hook and line fishing from plank boats almost completely replaces earlier methods, [411] the spear (pueiro) and the harpoon (barilla). [225] Harpooning is still done in hunting marine turtles while spears are occasionally used on larger groupers and also on sharks and mantas. Harpoons were also used in connection with the latter. But since World War II the shark fishing has declined, owing to the development of synthetic vitamins and abandonment of sharks and mantas' liver oil as a source of vitamins. In these operations, the Seris were for a while involved to a considerable extent. But now they have completely switched to commercial fishing which supplies not only food but also ready-made cash from [439] the Mexican traders, and with it the Seris can purchase luxuries of life in the Mexican *tienda*.

262 Altogether, out of 42 species listed here, the Seris reported taking for food 20 species which are as follows:

Malacosteuus zonifer
Firella simplicidens
Anisostremus davidsoni
Paralabrax maculofasciatus
Lythrulon flavigutlatus
Mugil sp.
Cynoscion parvipinnis
Anchovia macrolepidota
Bairdiella icistius
Stereolepis gigas
Mycteroperca jordani
Cynoscior macdonaldi
Epinephalus analogus
???? (Pescara)
Trachinotus paitensis
Verrugulus polylepsis
Gymnothorax castaneus
Hypsoblennis gentilis rickettsi
Abudefduf saxatilis

The most important of these are the groupers, the *baya, pinto, totuava* and *mero*—the latter a giant fish often in excess of 150 kg. and nearly three meters long. The most important of these is the *baya*, a medium size fish taken daily in vary- [226] ing amounts. I suspect that this fish accounts for more than half or maybe even 2 3 of the total Seri catch, weight-wise. Of others, none is of any importance except seasonally.

* 825 Another sort of use is made of the sharks and mantas in connection with the already mentioned exploitation for liver. Five species of sharks and the horned manta were listed by the Seris, with *chata, gato* and *composo* most frequent and perhaps most important.

Trading, as already mentioned, is of consider- able importance to the Seris. Some fish are eaten [439] only occasionally, but they may be traded off to the Mexicans.

262 Not all fish are eaten. In most cases no particular explanation had been offered for the rejection. But, in some, specific reasons were mentioned. The *Scorpaena sonorae* and *Cetengraulis mysticetus* are so rejected because they "are too bony to eat." *Gillichthys seta* are considered unfit to eat because of its tiny size while *Sphoeroides annulatus* is refused because of its supposed toxicity, of which more later. Finally, the sharks are not eat-

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VIII

CRUSTACEA

Scientific	Common Name
Cirripedia	Barnacle
Axius vivesi	Mud-shrimp
Leptodius occidentalis	
Microphyrus platicoma	
Speleophorus schmitti	
Petrolisthus armatus	
Callinectes arcuatus	
Glyptoxanthus meandricus	
Pilumnus townsendi	

All animals in this group are considered live animals—and not plants. This interestingly includes the barnacle. The only way one may account for this is probably the Seris' observation of the cracked barnacles and of the moving flesh inside. Barnacles growing on the marine turtles are also classed as animals, though of a different kind than the barnacles growing on rocks or on the mangroves. They are called *piojos de caàuama*, literally, turtle lice.

The Seris regard *Glyptoxanthus* and *Pilumnus* as the same kind of animal. *Pilumnus* is considered to be merely a large specimen and "maybe an adult," the other *Pilumnus* "is young." When questioned about the reason for the identity the informants pointed out the hairiness of both crabs.

On the other hand, although *Spelenophorus* and *Microphyrus* have the same Seri name, they are considered two different species.

Economy

Crustaceans play little role in the Seri diet. Very few are eaten at all and when they are, the amounts are insignificant and they are considered an inferior sort of food. The informants denied that they have eaten any of them in recent years, but allowed that two species, *Callinectes* and *Axius*, had been part of their diet in the past, although how long ago they didn't specify. There is no doubt, however, that in time of frequent sub-famines, the Indians resort to these lowly creatures.

In addition to this, *Microphyrus* had been mentioned as a fish bait. It is possible that in a pinch other forms are also so used. Finally, the most frequent function that the crustaceans play in the Seri life is as objects of play for the boys who spear them with the miniature two-pronged "pulleros."

Sexing

For three species of the crustaceans the Seris indicated distinction differences between the sexes. In the two crabs, *Callinectes* and *Leptodius*, the males have narrow center plate while the female's center plate is wide, which in fact is a well-known sex difference in crab. In *Glyptoxanthus* and *Lep-*

123 handed to show their friendliness.

142 One was a young man with rather pleasant features, his braided
291 hair hanging below his shoulders. His name was Antonio Herrera. The
123 other was a wild-looking specimen called Ramon Blanco. His hair was a
[302] tangled mat with a short braid behind, suspicious black piercing eyes,
long sparse moustache and chin-beard hiding a broad cruel mouth. He
[411] wore the remnants of an old sweater, a short dirty kilt, or skirt,
nearly to his knees, a belt full of cartridges, mostly empty, and a
long knife in a rawhide scabbard.

123 The young man had been baptized and given a name by Roberto, who
[795] had acted as godfather or *patrona*, many years ago. He wore a hat,
[291] jacket, and pants of blue denim, and *guaraches*, or sandals of rawhide.

We shook hands all around and then they called and halloed in the brush and soon three women and a lot of children, wild and half-
[415] clothed, filed into camp. The women were tall, gaunt, unkempt, ragged
[482] and barefooted, paying us not the slightest notice. They were bearing
[422] on their heads large baskets filled with all their earthly possess-
[854] sions---cooking ollas, scraps of cloth, pieces of turtle meat, bone
[231] brads, hair brushes, and odds and ends. They carried, also, an infant or two wrapped in odd bits of rags. Several gaunt dogs followed in their wake.

342 In all, three families came trailing in, removed their household
[592] equipment from their heads and resumed their interrupted and primitive housekeeping. Each family occupied its apartment in the row of brush shelters, separated from each other only by brush partitions with a total lack of privacy. These shelters, always open to the sea, serve as shade from the fierce rays of the sun, and also as windbreaks, but
[361] are no protection from infrequent rains. They are occupied only for a brief period and then their nomadic tenants move on to fresh *cahuana*, or sea turtle range.

123 Soon, a third man arrived while we were near the huts, Manuel
[42] Encina. He was a man of sixty-five, gray hair and mustache, seamed features, and not evil looking. He was out of breath. He had gone for water to the same water hole where we had been yesterday, struck our tracks, had left his water cans and hurried back to warn his people. He was greatly relieved to find friends.

Since he had gone for water, inquiry revealed there had been no water in camp for two days, and six adults and one girl of thirteen and six children were thirsty. We gladly gave them one of our five-
[225] gallon cans of water and they were very grateful. They had caught a
[262] sea turtle the day before and gave us some turtle steaks which looked like beef or mutton.

312 As the camp was without water and we were running short, the young
402 man and Encina offered to get some. Each took a *palanca*, or short
123 shoulder pole with knotched ends, fitted empty five-gallon cans in

10: Davis E-5 (1922-ca. 1939) 1965 NU31 Ser. NU31

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Poised for harpooning sea turtles off Tiburon Island - 1936

[302]
[142]
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The catch

262 The Seris also eat the fruit of the *cholla* cactus, *pitahalla* and *sag-*
222 *uaro*, and probably many other plants in season, but they are wild to get flour. But the principal diet is *cahuama*, or sea turtle.

225 After a day or so with the Seris, their food supply became exhaust-
123 ed and they made arrangements to take our boat (all they had was a
[177] *balsa*) and get a sea turtle. So at four o'clock in the morning, with Roberto and Nene, his brother, and myself, they shoved off for the fishing ground. It took two hours of hard rowing to reach the Sonora
[33] side, as the tide was racing up the *Infernillo*. Most of the waters are shallow, with patches of dark and light sandy bottom, with seaweed or grass. On this green grass the turtle feeds; it is their alfalfa field, and it takes a keen-practised eye to see a turtle at the bottom and harpoon him before he escapes.

225 Once on the hunting ground, water, one of the Seris stood in the
[141] bow with a harpoon twenty feet long, a detachable barb on the end of it, and a heavy line attached. The Seri in the bow motioned with his hand this way or that, slow or fast, and watched the bottom. At last he plunged his spear and withdrew the pole. The turtle swam awhile
[141] until exhausted, and then he was drawn alongside, his head pounded with an ironwood club, and then he was turned on his back and drawn on board. This called for great skill in balancing the cranky, smooth-bottomed boat to keep it from shipping a wave.

225 When a Seri goes in his native *balsa*, which only holds one man, he
501 straddles the middle part on his knees, resting them on seaweed. The craft is light and is a good sea craft, but it is low in the water and the man is wet all the time. He uses a double-bladed paddle, and his harpoon rests against pegs set in the *carrizos*. A rock which serves to quiet the turtle, two pointed stakes and a heavy fish line complete the equipment. He has to paddle across to the other side in that cramped position, say eight or ten miles, very early in the morning, then watch his chance to harpoon. If successful he brings up the turtle, knocks him on the head with the rock, pulls him on the end of the craft by skillful manipulation, cut slots in the front flippers, put stakes through and into the *carriso*, pinning him firmly in place, then paddle back.

225 The wind came up strong when we started to return from our turtle
123 hunt and with wind and tide against us we rowed across the Island. Bob and his brother disembarked and took it afoot for camp, a distance of ten miles, reaching there at two p.m. The Seris made a tump line and towed the boat, one towing and two warping off-shore until we arrived at camp about four p.m.

When the bow was run up on the shore everybody came down, the women and children talking a steady stream in their strange jargon.
123 They soon jerked the heavy turtle out, dragged him up the beach on
262 his back, and began immediately to cut him up. Bob spoke for the breast, which is a white plate on the underside of the turtle with

[text continues on p. 168]

10: Davis E-5 (1922-ca.1939) 1965 NU31 Seri NU31

411
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Fastening feathers on arrows with stone held tight in his teeth.
1929

[283]

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Santo Blanco and Edward H. Davis - this hombre gambled away his only shirt - Seneca - 1939

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Seri method of carrying infant

622 Thus passed a very striking character among the primitive races of Sonora, Mexico. He was brave and fearless in battle; crafty, cautious, and cunning in attack; cruel and merciless to his enemies. He was rarely caught off his guard, and always managed to extricate himself and his men from difficult situations. He was quick to think and act, and was wise with the wisdom learned at first hand on desert and sea from a rugged nature, reluctant to give up her secrets. He was a master hand at balsa building, a good hunter, fisherman, harpooner of cahuama (sea turtle), a good surfman, a good gambler, and an expert tracker. It was not unusual to possess two or three wives, but the old Chief, while married three times, had only one wife at a time. He was quite fond of the writer, and used to greet him with the true Mexican abrazo.

It was in 1922 that I first met the grim old warrior on the shores of Tiburon, whither I had gone on a quest for the Museum of the American Indian, Heye Foundation, New York.

He was very dark, of medium height, thick set, with a broad, deep chest, very muscular, with shaggy brows and deep set eyes which, even at that age, ninety years, burned like coals of fire, and were suspicious and wary. He wore a braided pigtail down his back which contained a few gray hairs. For clothing, he wore a ragged shirt and an old pair of overalls, with a short kilt hanging from a belt, through which stuck a long naked knife of hoop iron, ground on abrasive rocks and keen as a razor.

From infancy to the grave, the freedom of his feet was never hampered by shoes. Even at that advanced age, and until his last illness, he was perfectly able to care for himself, and follow his nomadic tribe on its devious trails along the coast and far in the interior. A walk of a hundred miles was not unusual. For ten rifle cartridges a Seri Indian once walked forty or fifty miles to deliver my message to Juan Tomas. From the time we first met, our friendship was never broken.

BAND V

642 These people were apparently hunters, gatherers, and fishermen. It is said that they speared fish from the shore since they did not use *balsas*. They too apparently raided the ranches. Their warring nature has already been discussed; it resulted in the acquisition of few friends. However, several marriages between members of this band and members of subdivision 2 of Band III are said to have occurred.

BAND VI

The members of Band VI lived on San Esteban Island and were the most primitive of the tribe. They lived in huts made of driftwood and in caves and made extensive use of the *balsa*. Although they did not have the bow and arrow, they did become expert in the use of the spear. The people depended mainly on a seafood, iguana, and maguey diet.

621 Perhaps it was due to the confined living space on the small island with the accompanying lack of fresh water that relations between the four subdivisions were precarious and fights broke out frequently. The Seri today stress the fact that the members of this band were impetuous and unpredictable.

642 Their relations with the other bands were generally good however. Seri from Band III were free to visit San Esteban where they were well treated.

The San Esteban people seldom traveled to the mainland, and, since they spoke no Spanish, it is probable that they made no peaceful contact with non-Seri groups.

642 COLLAPSE OF THE BAND SYSTEM

628 Internal strife in the Seri tribe was probably a major factor 578 in the establishment of the band system. External strife was a 648 major factor in its downfall.

Reference has been made to the plundering, killings and rustling of cattle to which certain of the bands were dedicated. The concern of the Sonora government was aroused, and steps were taken to crush the rebellious groups. According to the present-day Seri, military action by army units and rancher outfits against the various bands resulted in the near-destruction of the whole tribe.[11]